Queensland

Radiation Safety Regulation 2021

Subordinate Legislation 2021 No. ...

made under the

Radiation Safety Act 1999

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Part 1 Preliminary

1 Short title

This regulation may be cited as the *Radiation Safety Regulation 2021*.

2 Commencement

(1) This regulation, other than part 17, commences on 1 September 2021.

(2) Part 17 commences on 1 October 2021.

3 Definitions

The dictionary in schedule 9 defines particular words used in this regulation.

Part 2 Radiation sources and sealed source apparatus

Division 1 Radioactive substances

4 Radioactive substance—Act, sch 2 [ss 4 & 5]

(1) For schedule 2 of the Act, definition *radioactive substance*, paragraph (b), the following radioactive material is prescribed to be a radioactive substance—

(a) radioactive material (other than radioactive material that is a mineral substance) containing a radionuclide mentioned in schedule 1, column 1, if both of the following apply—

(i) the concentration of the radionuclide is equal to or more than the concentration stated opposite the radionuclide in column 2 of the schedule;

(ii) the activity of the radionuclide is equal to or more than the activity stated opposite the radionuclide in column 3 of the schedule;

(b) radioactive material that is a mineral substance containing a radionuclide mentioned in schedule 1, column 1, if the concentration of the radionuclide is equal to or more than the concentration worked out by multiplying the concentration stated opposite the radionuclide in column 2 of the schedule by 10.

(2) In this section—

mineral substance means—

(a) a mineral, other than a mineral situated within the boundaries of land the subject of a mining lease, mineral development licence or exploration permit within the meaning of the *Mineral Resources Act 1989*; or

(b) a substance into which a mineral has been changed as a result of the processing of the mineral.

Examples of the processing of a mineral—

the refining, smelting or calcining of a mineral

Division 2 Radiation apparatus

5 Ionising radiation apparatus—Act, sch 2, definition *radiation apparatus* [s 6]

(1) For schedule 2 of the Act, definition *radiation apparatus*, paragraphs (a) and (b), the amount prescribed is 1 microgray per hour, measured at a distance of 10cm from any accessible surface of the apparatus.

(2) In this section—

accessible surface, of an apparatus, means a surface of the apparatus that may easily be touched.

6 Non-ionising radiation apparatus—Act, sch 2, definition *radiation apparatus* [s 7]

(1) For schedule 2 of the Act, definition *radiation apparatus*, paragraphs (c) and (d), the following apparatus are prescribed—

(a) a laser;

(b) a relevant solarium.

(2) For schedule 2 of the Act, definition *radiation apparatus*, paragraphs (c) and (d), the following amounts are prescribed—

(a) for a laser—the accessible emission limit, for a class 1 laser, for the period stated in, and measured in accordance with, the laser standard;

(b) for a relevant solarium—an erythemally effective dose of 100 joules per square metre per hour.

(3) In this section—

CIE document means the standard titled 'ISO/CIE 17166:2019—Erythema reference action spectrum and standard erythema dose', published by the International Organization for Standardization and prepared by the International Commission on Illumination.

erythemally effective dose means the dose obtained by weighting the spectral distribution of electromagnetic radiation incident on the measured area with the erythemal effectiveness stated in the CIE document across the electromagnetic radiation wavelength range of 280nm to 400nm and then integrating to obtain the total dose in joules per square metre in accordance with the CIE document.

Division 3 Security enhanced sources

7 Security enhanced source—Act, sch 2 [s 8]

(1) For schedule 2 of the Act, definition *security enhanced source*, each of the following radiation sources is prescribed to be a security enhanced source—

(a) a sealed radioactive substance that has a security category of 1, 2 or 3;

(b) an aggregation of sealed radioactive substances that has a security category of 1, 2 or 3.

(2) For subsection (1), the ***security category*** of a sealed radioactive substance, or of an aggregation of sealed radioactive substances, is the security category stated in schedule 2, part 1 opposite the activity ratio of the substance or aggregation as worked out under subsection (3) or (4).

(3) For subsection (2), the activity ratio of a sealed radioactive substance is worked out using the formula—

$$\mathbf{AR} = \frac{\mathbf{A}}{\mathbf{RAV}}$$

where—

A means the activity of the radionuclide in the sealed radioactive substance, stated in gigabecquerels.

AR means the activity ratio.

RAV means the radionuclide activity value stated in schedule 2, part 2 for the radionuclide in the sealed radioactive substance.

(4) For subsection (2), the activity ratio of an aggregation of 2 or more sealed radioactive substances is the sum of the activity ratios of each of the sealed radioactive substances in the aggregation worked out under subsection (3).

Division 4 Certificates of compliance

8 Periods within which certificates of compliance must be obtained—Act, s 18 [s 9]

(1) For section 18(2) of the Act, the following periods are prescribed—

(a) for an ionising radiation apparatus, or a sealed source apparatus, used to carry out a diagnostic or therapeutic procedure involving the irradiation of a person, other than a radiation apparatus used to carry out intra-oral dental diagnostic imaging or plain diagnostic imaging involving the irradiation of a person—1 year;

(b) for an ionising radiation apparatus, or a sealed source apparatus, used to carry out a radiation practice for a research project—1 year;

(c) for an ionising radiation apparatus, or a sealed source apparatus, used during a person's study or training at an educational institution—1 year;

(d) for an ionising radiation apparatus, or a sealed source apparatus, used to carry out a radiation practice, other than an ionising radiation apparatus, or sealed source apparatus, mentioned in paragraph (a), (b), (c) or (e)—3 years;

(e) for an ionising radiation apparatus used to carry out diagnostic imaging involving the irradiation of a person, if the apparatus is the subject of a quality assurance program approved by the chief executive under subsection (3)—10 years;

(f) for a laser apparatus used to carry out a diagnostic, therapeutic or cosmetic procedure involving the irradiation of a person—1 year.

(2) For section 18(4) and (5) of the Act, the period prescribed is 5 years.

(3) The chief executive may, by notice published on the department's website, approve a quality assurance program

but only if the chief executive is satisfied the program implements 1 or more radiation safety standards.

Part 3 Disposal

Division 1 Disposal of radioactive material

9 Disposal of radioactive material into air or water, other than into sewerage system—Act, s 26 [s 15]

(1) For section 26(1)(a) of the Act—

(a) for disposal into the air of radioactive material containing only 1 of the radionuclides mentioned in schedule 3, column 1—the maximum concentration prescribed is the concentration stated in column 2 of the schedule opposite the radionuclide; or

(b) for disposal into water of radioactive material containing only 1 of the radionuclides mentioned in schedule 3, column 1—the maximum concentration prescribed is the concentration stated in column 3 of the schedule opposite the radionuclide; or

(c) for disposal into the air or water of radioactive material containing more than 1 of the radionuclides mentioned in schedule 3, column 1—the maximum concentration prescribed is the concentration resulting in a disposal factor for the material of 1.

(2) Subsection (1) does not apply in relation to the disposal of radioactive material into a sewerage system.

(3) Subsection (4) applies in relation to the disposal into water of radioactive material mentioned in subsection (1)(b) or (c) that is wastewater resulting from reverse osmosis at a water treatment facility.

(4) For section 26(2) of the Act, the point of disposal at which the concentration of the radionuclide in the radioactive material is

to be decided is immediately outside the point at which the wastewater is released into the environment.

(5) In this section—

disposal factor, for radioactive material containing more than 1 of the radionuclides mentioned in schedule 3, column 1, means the total of the amounts worked out for each of the radionuclides using the following formula—

$$\mathbf{A = \frac{C}{MC}}$$

where—

A, for a radionuclide, means the amount for the radionuclide.

C, for a radionuclide, means the radionuclide's concentration, measured in Bq per cubic metre.

MC, for a radionuclide, means—

(a) if the material is to be disposed of into the air—the concentration stated in schedule 3, column 2 opposite the radionuclide; or

(b) if the material is to be disposed of into water—the concentration stated in schedule 3, column 3 opposite the radionuclide.

10 Disposal of radioactive material into sewerage system—Act, s 26 [s 16]

(1) For section 26(1)(a) of the Act—

(a) for disposal into a sewerage system of radioactive material containing only 1 of the radionuclides mentioned in schedule 3, column 1—the maximum concentration prescribed is the concentration stated in column 4 of the schedule opposite the radionuclide; or

(b) for disposal into a sewerage system of radioactive material containing more than 1 of the radionuclides mentioned in schedule 3, column 1—the maximum

concentration prescribed is a concentration resulting in a disposal factor for the material of 1.

(2) For section 26(2) of the Act, the point of disposal at which the concentration of the radionuclide in the radioactive material is to be decided is the point at, or immediately before, which the sewerage pipe leading from the premises from which the material is being disposed of joins the main reticulation line of the sewerage system.

(3) In this section—

disposal factor, for radioactive material containing more than 1 of the radionuclides mentioned in schedule 3, column 1, means the total of the amounts worked out for each of the radionuclides using the following formula—

$$\mathbf{A} = \frac{\mathbf{C}}{\mathbf{MC}}$$

where—

A, for a radionuclide, means the amount for the radionuclide.

C, for a radionuclide, means the radionuclide's concentration, measured in Bq per cubic metre.

MC, for a radionuclide, means the concentration stated in schedule 3, column 4 opposite the radionuclide.

11 Disposal of radioactive material, other than into air, water or sewerage system—Act, s 26 [s 17]

(1) For section 26(1)(a) of the Act—

(a) for disposal, other than into the air, water or a sewerage system, of radioactive material containing only 1 of the radionuclides mentioned in schedule 1, column 1—the maximum concentration prescribed is one-half of the concentration stated in column 2 of the schedule opposite the radionuclide; or

(b) for disposal, other than into the air, water or a sewerage system, of radioactive material containing more than 1

of the radionuclides mentioned in schedule 1, column 1—the maximum concentration prescribed is a concentration resulting in a disposal factor for the material of 1.

(2) However, this section does not apply in relation to radioactive material that is a mineral substance mentioned in section 12(1) or (3).

(3) In this section—

disposal factor, for radioactive material containing more than 1 of the radionuclides mentioned in schedule 1, means the total of the amounts worked out for each of the radionuclides using the following formula—

$$\mathbf{A = \frac{C}{MC}}$$

where—

A, for a radionuclide, means the amount for the radionuclide.

C, for a radionuclide, means the radionuclide's concentration, measured in Bq per gram.

MC, for a radionuclide, means one-half of the concentration stated in schedule 1, column 2 opposite the radionuclide.

12 Disposal of particular mineral substances, other than into air, water or sewerage system—Act, s 26 [s 78]

(1) Subsection (2) applies in relation to the disposal, other than into the air, water or a sewerage system, of radioactive material that is a mineral substance that—

(a) contains only 1 of the radionuclides mentioned in schedule 1, column 1; and

(b) has gross alpha and gross beta concentrations in the leachate worked out under the TCLP that are each equal to or less than the concentration stated in the Australian drinking water guidelines for each of the radionuclides multiplied by 10.

(2) For section 26(1)(a) of the Act, the maximum concentration prescribed for the disposal of the mineral substance is the concentration worked out by multiplying the concentration stated in schedule 1, column 2 opposite the radionuclide by 10.

(3) Subsection (4) applies in relation to the disposal, other than into the air, water or a sewerage system, of radioactive material that is a mineral substance that—

(a) contains more than 1 of the radionuclides mentioned in schedule 1, column 1; and

(b) has gross alpha and gross beta concentrations in the leachate worked out under the TCLP that are each equal to or less than the concentration stated in the Australian drinking water guidelines for each of the radionuclides multiplied by 10.

(4) For section 26(1)(a) of the Act, the maximum concentration prescribed for the disposal of the mineral substance is the concentration resulting in a disposal factor for the mineral substance of 1.

(5) In this section—

disposal factor, for a mineral substance mentioned in subsection (3) and containing more than 1 of the radionuclides mentioned in schedule 1, column 1, means the total of the amounts worked out for each of the radionuclides using the following formula—

$$\mathbf{A = \frac{C}{MC}}$$

where—

A, for a radionuclide, means the amount for the radionuclide.

C, for a radionuclide, means the radionuclide's concentration, measured in Bq per gram.

MC, for a radionuclide, means the amount worked out by multiplying the concentration stated in schedule 1, column 2 opposite the radionuclide by 10.

Division 2 Requirements for disposal of particular apparatus and containers

13 Removal of radiation warning signs [s 18]

(1) This section applies to a person disposing of—

(a) a container that has been used for the transport or storage of radioactive material; or

(b) an apparatus that once contained a sealed radioactive substance; or

(c) a radiation apparatus, other than a radiation apparatus that is a laser but is not a laser apparatus.

(2) The person must, immediately before the disposal, remove or make illegible all radiation warning signs attached to the container or apparatus.

Maximum penalty—20 penalty units.

(3) In this section—

radiation warning sign, attached to a container or apparatus, means a label adhering to, or a symbol embedded in, the container or apparatus indicating that the container or apparatus poses a radiation hazard.

Part 4 Radiation safety and protection plans

Division 1 Preliminary

14 References to possession licensee

In a provision of this part in relation to the carrying out of a radiation practice, a reference to the possession licensee for the radiation practice is a reference to the possession licensee

in possession of the radiation source, under the licence, for the radiation practice.

Division 2 Radiation safety and protection measures for all radiation practices

15 Methods and procedures [s 19]

(1) For section 28(6) of the Act, definition *radiation safety and protection measures*, each of the following measures is prescribed—

(a) safe handling procedures to be followed for the radiation source;

(b) procedures and methods for ensuring the safe use of the radiation source in carrying out the radiation practice;

(c) if the radiation practice involves the production of images—procedures and methods for ensuring the correct use of ancillary imaging equipment used in connection with the radiation source to carry out the practice;

(d) quality control procedures to be undertaken for—

(i) the radiation source; and

(ii) if the radiation source is a sealed source apparatus—the apparatus; and

(iii) if the radiation practice involves the production of images—any ancillary imaging equipment used in connection with the use of the radiation source to carry out the practice;

(e) remediation procedures to be followed for an accident that could reasonably be expected to happen in relation to carrying out the radiation practice.

(2) In this section—

remediation procedures, for an accident, means procedures designed to minimise a radiation hazard arising from the accident.

16 Control of access to, and use of, radiation source [s 20]

(1) For section 28(6) of the Act, definition *radiation safety and protection measures*, the measure prescribed is the control of access to, and use of, the radiation source.

(2) The measure prescribed under subsection (1) includes the following details—

(a) how access to the radiation source is to be controlled;

(b) how use of the radiation source is to be controlled.

17 Supply of personal monitoring devices [s 21]

(1) For section 28(6) of the Act, definition *radiation safety and protection measures*, the measure prescribed is the supply by the possession licensee for the radiation practice of personal monitoring devices to be worn by persons while involved in carrying out the radiation practice.

(2) The measure prescribed under subsection (1) includes the following details—

(a) the persons who are to wear the devices, described by reference to the nature of their involvement in carrying out the radiation practice;

(b) how, when and where the devices are to be worn;

(c) where the devices are to be stored when the devices are not being worn;

(d) the interval at which the devices are to be assessed to estimate how much radiation the persons have absorbed;

(e) the persons who are to perform the assessment mentioned in paragraph (d), described by reference to the abilities of the persons to perform the task.

18 Supply of particular equipment [ss 22, 24]

(1) For section 28(6) of the Act, definition *radiation safety and protection measures*, the measure prescribed is the supply by the possession licensee for the radiation practice for use by persons while involved in carrying out the radiation practice of 1 or more of the following—

(a) safety devices;

(b) personal protective equipment.

(2) The measure prescribed under subsection (1) includes the following details—

(a) for the supply of safety devices under the measure—

(i) the devices to be supplied; and

(ii) how, and when, the devices are to be used; and

(iii) the checks to be undertaken to test wear and tear or correct operation; and

(iv) the expected outcome of each check; and

(v) the person who will be engaged to check the devices, by reference to the abilities of the person to perform the task; and

(vi) the interval at which the devices are to be checked for wear and tear or correct operation of the devices; and

(vii) how the actual outcome of the checks of the devices is to be recorded; and

(viii) if the actual outcome of a check of a device is different from the expected outcome—the procedures to be followed to fix the deficiency;

(b) for the supply of personal protective equipment under the measure—

(i) the persons who are to wear the equipment; and

(ii) the type of equipment to be supplied to—

(A) persons involved in carrying out the radiation practice; or

(B) persons otherwise exposed to radiation in the carrying out of the radiation practice; and

(iii) how, and when, the equipment is to be worn by the persons; and

(iv) the checks to be undertaken to test wear and tear or correct operation of the equipment; and

(v) the expected outcome of each check; and

(vi) the persons who will be engaged to check the equipment, described by reference to the abilities of the persons to perform the task; and

(vii) the interval at which the equipment is to be checked for wear and tear or correct operation; and

(viii) how the actual outcome of the checks of the equipment is to be recorded; and

(ix) if the actual outcome of a check of the equipment is different from the expected outcome—the procedures to be followed to fix the deficiency.

(3) In this section—

safety device—

(a) means a device that, when used by a person while involved in carrying out a radiation practice, reduces the exposure of the person to radiation attributable to the carrying out of the practice; but

(b) does not include personal protective equipment.

19 Record in register—Act, s 28 [s 23]

(1) For section 28(6) of the Act, definition *radiation safety and protection measures*, the following measures are prescribed—

(a) the arrangement for—

(i) keeping, under the possession licensee's control, a register for recording particulars about the radiation practice; and

(ii) making the register available to the use licensee who—

(A) uses the radiation source to carry out the radiation practice; or

(B) personally supervises another person who is allowed, under the use licensee's licence, to use the radiation source to carry out the radiation practice;

(b) the arrangement for ensuring the use licensee records relevant details about the use of the radiation source in the register.

(2) In this section—

relevant details, in relation to the use of a radiation source to carry out a radiation practice, means each of the following—

(a) the name of the person who used the radiation source to carry out the practice;

(b) if the radiation source is an unsealed radioactive substance—details of any disposal of radioactive material that happens in carrying out the practice;

(c) details of—

(i) any quality control procedures undertaken for—

(A) the radiation source; and

(B) if the practice involves the production of images—any ancillary imaging equipment used in connection with the use of the source to carry out the practice; and

(ii) the outcomes of the quality control procedures.

Division 3 Radiation safety and protection measures for particular radiation practices

20 Radiation alarms for radiation practices involving ionising radiation sources [s 25]

(1) This section applies in relation to a radiation practice involving the use of an ionising radiation source.

(2) For section 28(6) of the Act, definition *radiation safety and protection measures*, the measures prescribed are—

(a) supply by the possession licensee for the radiation practice of personal radiation alarms for use by persons involved in carrying out the radiation practice; and

(b) if a personal radiation alarm is repaired or suspected to have been damaged—that the personal radiation alarm is not used unless it is first checked for sensitivity, accuracy, range and energy response.

(3) The measure prescribed under subsection (2)(a) includes the following details—

(a) the persons who are required to use the personal radiation alarms, described by reference to the nature of their involvement in carrying out the practice;

(b) how, and when, the personal radiation alarms are to be used by the persons;

(c) the operational checks to be undertaken by each person before each use of the personal radiation alarm to ensure the alarm is working correctly;

(d) the personal radiation alarms, having the sensitivity, accuracy, range and energy response appropriate to the radiation source, that are to be used;

(e) the interval, of not more than 1 year, at which the personal radiation alarms are to be checked for sensitivity, accuracy, range and energy response;

(f) the persons who will be engaged to check the sensitivity, accuracy, range and energy response of the personal radiation alarms, described by reference to the abilities of the persons to perform the task.

(4) The measure prescribed under subsection (2)(b) includes details of the persons who will be engaged to check the sensitivity, accuracy, range and energy response of the personal radiation alarms, described by reference to the abilities of the persons to perform the task.

(5) In this section—

personal radiation alarm means a device that produces a visual or audible signal when—

(a) a radiation dose received by the device is more than a particular dose level; or

(b) a radiation dose received by the device in a particular period is more than a particular dose level.

21 Particular radiation practices involving ionising radiation sources [s 27]

(1) This section applies in relation to a radiation practice involving the use of an ionising radiation source, other than—

(a) the use of an ionising radiation apparatus for—

(i) a diagnostic procedure involving the irradiation of a person; or

(ii) chemical analysis; or

(b) the use of a sealed source apparatus for chemical analysis; or

(c) the use of a cabinet radiation apparatus or an enclosed radiation apparatus for its intended purpose.

(2) For section 28(6) of the Act, definition *radiation safety and protection measures*, the measures prescribed are—

(a) supply by the possession licensee for the radiation practice of radiation monitoring equipment for use by

persons while involved in carrying out the radiation practice; and

(b) if the radiation monitoring equipment is repaired or suspected to have been damaged—that the equipment is not used unless it is first checked for sensitivity, accuracy, range and energy response.

(3) The measure prescribed under subsection (2)(a) includes the following details about the radiation monitoring equipment—

(a) how the equipment is to be used;

(b) the equipment, having the sensitivity, accuracy, range and energy response appropriate to the radiation source, that is to be used;

(c) how the possession licensee for the radiation practice is to ensure the sensitivity, accuracy, range and energy response of the equipment to be used are maintained;

(d) the interval, of not more than 1 year, at which the equipment is to be checked for sensitivity, accuracy, range and energy response;

(e) the persons who will be engaged to check the sensitivity, accuracy, range and energy response of the equipment, described by reference to the abilities of the persons to perform the task.

(4) The measure prescribed under subsection (2)(b) includes details of the persons who will be engaged to check the sensitivity, accuracy, range and energy response of the radiation monitoring equipment, described by reference to the abilities of the persons to perform the task.

(5) In this section—

radiation monitoring equipment means equipment that measures the amount of radiation emitted from radioactive substances or ionising radiation apparatus in a particular period.

22 Radiation practices involving use or storage of unsealed radioactive substances [s 26]

(1) This section applies in relation to a radiation practice that involves the use or storage of unsealed radioactive substances at premises.

(2) For section 28(6) of the Act, definition *radiation safety and protection measures*, the following measures are prescribed—

(a) monitoring the premises, and persons and things at the premises, to detect or minimise contamination of the premises, persons or things;

(b) safe management at the premises of contaminated cleanable things used in carrying out the radiation practice before the removal of the cleanable things from the premises for cleaning;

(c) safe management at the premises of waste radioactive material produced in carrying out the radiation practice before its disposal;

(d) minimising the amount of waste radioactive material produced in carrying out the radiation practice.

(3) The measure prescribed under subsection (2)(a) includes the following details—

(a) how the premises are to be monitored;

(b) how persons at the premises are to be monitored;

(c) how things at the premises are to be monitored;

(d) the monitoring equipment, having the sensitivity, accuracy, range and energy response appropriate to the contamination to be monitored, that is to be used.

(4) The measure prescribed under subsection (2)(b) includes the following details—

(a) how the contaminated cleanable things at the premises are to be stored before removal from the premises for cleaning;

(b) the period for which the contaminated cleanable things at the premises are to be stored before removal from the premises for cleaning.

(5) The measure prescribed under subsection (2)(c) includes each of the following details—

(a) how the waste radioactive material produced in carrying out the radiation practice is to be dealt with before its disposal;

(b) the method to be used to minimise the activity of the radionuclide in, and volume of, the waste radioactive material;

(c) if the waste radioactive material is to be stored—how the waste radioactive material is to be sorted for storage, having regard to—

(i) its half-life, volume, and physical and chemical properties; and

(ii) the concentration of the radionuclide in the material.

(6) The measure prescribed under subsection (2)(d) includes details about how the amount of the waste radioactive material produced in carrying out the radiation practice is to be minimised.

(7) In this section—

cleanable thing, at premises, means a thing that, to be cleaned, needs to be removed from the premises.

contamination, of a person, premises or thing, means the lodgement, attachment or incorporation of radioactive material on, to or in the person, premises or thing.

23 Diagnostic, therapeutic or cosmetic procedure involving irradiation of person—Act, s 28 [s 29]

(1) This section applies in relation to a radiation practice if the radiation practice involves the use of a radiation source to

carry out a diagnostic, therapeutic or cosmetic procedure involving the irradiation of a person (the ***relevant person***).

(2) For section 28(6) of the Act, definition *radiation safety and protection measures*, the following measures are prescribed—

(a) supply by the possession licensee for the radiation practice of personal protective equipment to be worn by the relevant person while the procedure is carried out;

(b) the arrangements for—

(i) keeping, under the possession licensee's control, a register for the radiation practice for details about each exposure of a treated person to radiation; and

(ii) making the register available to the use licensee who—

(A) uses the radiation source to carry out the procedure; or

(B) personally supervises another person who is allowed, under the licence, to carry out the procedure;

(c) procedures to ensure the relevant person wears the personal protective equipment while the procedure is carried out;

(d) the arrangements for ensuring the use licensee mentioned in subsection (2)(b)(ii) records of each of the following details in the register about each exposure of the relevant person to radiation while undergoing the procedure—

(i) the date of use of the radiation source to carry out the procedure;

(ii) details of the procedure;

(iii) if, as part of the procedure, a radioactive substance was administered to the relevant person—details of the substance.

(3) The measure prescribed under subsection (2)(a) includes details of the personal protective equipment to be supplied.

(4) The measure prescribed under subsection (2)(c) includes details of the procedures.

24 Marking of images from diagnostic or therapeutic procedure—Act, s 28 [s 29]

(1) This section applies in relation to a radiation practice if—

(a) the radiation practice involves the use of a radiation source to carry out a diagnostic or therapeutic procedure involving the irradiation of a person as the treated person; and

(b) the carrying out of the procedure results in the production of any of the following images (each a ***medical image***)—

(i) a nuclear medicine image;

(ii) a radiograph;

(iii) an X-ray image.

(2) For section 28(6) of the Act, definition *radiation safety and protection measures*, the measure prescribed is that the relevant information be permanently marked on the medical images produced during the procedure.

(3) The measure prescribed under subsection (2) includes the details of the way the marking is to be made.

(4) In this section—

nuclear medicine image means an image produced as a result of the detection of the radiation emitted by a radionuclide in a person, after the person has been administered a radiopharmaceutical.

permanently marked means—

(a) if the medical image is a digital image—included as part of the metadata for the image; or

(b) for another medical image—marked in a way that leaves a permanent record on the image.

relevant information means—

(a) for a medical image that is a radiograph with a surface area of less than 45cm^2—a marking that identifies, or helps in the identification of, the treated person; or

(b) for a medical image other than a medical image mentioned in paragraph (a)—

(i) the name, or identifying mark, of the use licensee; and

(ii) the name, or identifying mark, of the possession licensee; and

(iii) the address, or identifying mark, of the premises at which the image was produced; and

(iv) the name, gender and date of birth of the treated person; and

(v) the date the image was produced; and

(vi) if the medical image is a nuclear medicine image—details of the radiopharmaceuticals administered to the treated person for the production of the image; and

(vii) enough information to enable the correct interpretation of the image.

25 Diagnostic or therapeutic procedure involving irradiation of person [s 30]

(1) This section applies in relation to a radiation practice if the radiation practice involves the use of a radioactive substance to carry out a diagnostic or therapeutic procedure involving the irradiation of a person as the treated person.

(2) For section 28(6) of the Act, definition *radiation safety and protection measures*, the measure prescribed is the provision of guidance to the treated person about the duration of the procedure.

26 Radiation practices resulting in production of radionuclide radon-222 [s 31]

(1) This section applies in relation to a radiation practice if the practice results in the production of the radionuclide radon-222.

(2) For section 28(6) of the Act, definition *radiation safety and protection measures*, the measure prescribed is ventilation of the premises in which the radiation practice is being carried out in a way that prevents the concentration of the radionuclide radon-222 being more than 200Bq per cubic metre.

(3) The measure prescribed under subsection (2) includes details of how the premises are to be ventilated.

Division 4 Miscellaneous

27 Monitoring or assessment interval [s 32]

For section 28(2)(g) of the Act, the other particular prescribed is the maximum interval at which a radiation safety officer appointed by the possession licensee for the radiation practice is to monitor or assess the radiation source, or the premises at which the radiation practice is being carried out, to perform the function mentioned in section 37(2)(f) of the Act.

28 Supply of personal monitoring devices—Act, s 28 [s 56]

For section 28(3) of the Act, the radiation dose limit prescribed for ionising radiation is a total effective dose of 1mSv in any 12-month period.

Part 5 Security requirements for security enhanced sources

Division 1 Preliminary

29 Meaning of *threat level* [s 34]

(1) A ***threat level*** is an indicator of the likelihood and consequences of a person acquiring a security enhanced source for a malicious purpose.

(2) For this part, the threat level at a particular time is the threat level published on the National Terrorism Threat Advisory System website.

Notes—

1 The threat level is ordinarily described as 1 of the following—

- certain
- expected
- probable
- possible
- not expected.

2 The website for the National Terrorism Threat Advisory System is www.nationalsecurity.gov.au.

Division 2 Security plans

30 Storage and use of security enhanced source [s 36]

(1) For section 34A(5) of the Act, definition *security measures*, the measure prescribed is the secure storage and use of the security enhanced source.

(2) The measure prescribed under subsection (1) includes the following details—

(a) the location of the security enhanced source in the building or facility where it is—

(i) stored; or

(ii) used in carrying out the radiation practice;

(b) a plan of the building or facility in which the security enhanced source is—

(i) stored; or

(ii) used in carrying out the radiation practice.

31 Control of access to, or use of, security enhanced source [s 37]

(1) For section 34A(5) of the Act, definition *security measures*, the measure prescribed is the control of access to, or use of, the security enhanced source.

(2) The measure prescribed under subsection (1) includes the following details for each threat level—

(a) how access to the security enhanced source is to be controlled;

(b) the criminal history check or security check requirements for persons who may be allowed access to the security enhanced source;

(c) the arrangements for the supervision of persons who may be allowed access to the security enhanced source;

(d) the physical barriers to deter and delay unauthorised access to the security enhanced source;

Examples of physical barriers—

tamper-proof locks, bolts, armoured cupboards

(e) the interval at which staff access to the security enhanced source is to be reviewed;

(f) when, between intervals, staff access to the security enhanced source is to be reviewed;

(g) the interval at which the details mentioned in paragraphs (a) to (d) are to be reviewed.

32 Security equipment [s 38]

(1) For section 34A(5) of the Act, definition *security measures*, the following measures are prescribed—

(a) the installation and use of security equipment to protect the security enhanced source;

(b) the checking of the security equipment for wear and tear or correct operation.

(2) The measure prescribed under subsection (1)(a) includes the following details for each threat level—

(a) the security equipment that is to be used;

(b) how the security equipment is to be used.

(3) The measure prescribed under subsection (1)(b) includes each of the following details for each type of security equipment for each threat level—

(a) the checks to be undertaken to test wear and tear or correct operation;

(b) the expected outcome of each check;

(c) the person who will be required to check the equipment, described by reference to the abilities of the person to perform the task;

(d) the interval at which the equipment is to be checked for wear and tear or correct operation;

(e) how the actual outcome of the check of the equipment is to be recorded;

(f) if the actual outcome of the check of the equipment is different from the expected outcome—the procedures to be followed to fix the deficiency;

(g) the procedures to be followed before, during and after a technical service of the security equipment.

33 Security persons and surveillance [s 39]

(1) For section 34A(5) of the Act, definition *security measures*, the measure prescribed is the use of security persons and surveillance to guard the security enhanced source.

Examples of security persons—

a security officer, a hospital security officer, a protective security officer

(2) The measure prescribed under subsection (1) includes the following details for each threat level—

(a) the duties and responsibilities allocated to each of the security persons in relation to the measure;

(b) how surveillance of the security enhanced source is to be conducted.

34 Confirmation of source

(1) For section 34A(5) of the Act, definition *security measures*, the measure prescribed is confirming the presence or quantity of the security enhanced source.

(2) The measure prescribed under subsection (1) includes the following details for each threat level—

(a) the interval at which a person is to confirm the presence of the security enhanced source;

(b) the person who is to confirm the presence of the security enhanced source, described by reference to the person's abilities to perform the task.

35 Security education and awareness

(1) For section 34A(5) of the Act, definition *security measures*, the measure prescribed is providing security briefings to staff.

(2) The measure prescribed under subsection (1) includes the following details for each threat level—

(a) the security briefings staff will be required to attend;

(b) the interval at which staff will be required to attend particular security briefings.

36 Security-related information [s 40]

(1) For section 34A(5) of the Act, definition *security measures*, the following measures are prescribed—

(a) maintaining the security of the security-related information for the security enhanced source;

(b) maintaining the security of inventories and documents related to the management of the security enhanced source.

(2) The measure prescribed under subsection (1)(a) includes details, for each threat level, of how the possession licensee for the security enhanced source proposes to ensure the security of the security-related information for the source, including—

(a) who is responsible for the information; and

(b) what information is to be kept secure; and

(c) where the information is to be kept; and

(d) who is allowed access to the information; and

(e) how the information is to be kept secure.

(3) The measure prescribed under subsection (1)(b) includes details, for each threat level, of how the possession licensee for the security enhanced source proposes to record and maintain inventories and documents related to the management of the source.

(4) In this section—

security-related information, for a security enhanced source, means information about the measures, systems, infrastructure and other things used for each threat level to secure the security enhanced source.

Example of security-related information—

information related to a particular security system, pin codes, passwords or the location of keys

37 Security response arrangements [s 41(a)]

(1) For section 34A(5) of the Act, definition *security measures*, the following measures are prescribed—

(a) the arrangements and alternative arrangements developed for responding to a security breach;

(b) checks of the arrangements and alternative arrangements developed for responding to a security breach.

(2) The measure prescribed under subsection (1)(a) includes the following details for each threat level—

(a) security response arrangements and alternative arrangements for each contingency;

(b) the process for giving notice of a security breach.

(3) The measure prescribed under subsection (1)(b) includes each of the following details for each contingency for each threat level—

(a) the checks to be undertaken to test the arrangements and alternative arrangements for responding to a security breach;

(b) the expected outcome of each check;

(c) the interval at which the security response arrangements and alternative arrangements are to be checked;

(d) how the actual outcome of the check of the arrangements and alternative arrangements developed for responding to a security breach is to be recorded;

(e) if the actual outcome of a check of the arrangements or alternative arrangements for responding to a security breach is different from the expected outcome—the procedures to be followed to fix the deficiency.

38 Change of threat level [s 41(b)]

(1) For section 34A(5) of the Act, definition *security measures*, the measure prescribed is updating security arrangements to adapt to a change in the threat level.

(2) The measure prescribed under subsection (1) includes the following details—

(a) the actions to be taken to adapt to the new threat level;

(b) the persons who are to take the actions, described by reference to the person's abilities to perform the task.

Division 3 Transport security plans

39 Transportation procedures [s 44]

(1) For section 34H(5) of the Act, definition *transport security measures*, the following measures are prescribed—

(a) procedures in relation to the transportation of the security enhanced source;

(b) the notification of relevant authorities about the transportation of the security enhanced source.

(2) The measure prescribed under subsection (1)(a) includes the following details for each threat level—

(a) the vehicle in which the security enhanced source is to be transported and the arrangements for securing the transport during the journey and while stopped en route;

(b) the planned principal route and an alternative route;

(c) a contingency plan for each of the following—

(i) a vehicle accident;

(ii) a vehicle breakdown;

(iii) other interruptions.

(3) The measure prescribed under subsection (1)(b) includes the following details—

(a) the relevant contact details for each of the following—

(i) the consignor;

(ii) the consignee;

(iii) the carrier;

(iv) the delegate of the chief executive;

(v) if a guard or police service is involved in the transportation of the security enhanced source —the guard or police service;

(b) how, for each threat level, the parties involved in the transport of the security enhanced source are to communicate;

(c) the arrangements, for each threat level, for notifying or engaging 1 or more of the following in each jurisdiction in which the security enhanced source is to be transported—

(i) the police service;

(ii) the authority responsible for regulating the security enhanced source.

(4) In this section—

relevant contact details, for a person, includes—

(a) the person's name; and

(b) the person's business address; and

(c) the person's phone number; and

(d) if the person's after hours phone number is different from the phone number mentioned in paragraph (c)—the person's after hours phone number.

40 Control of access to security enhanced source during transport [s 47]

(1) For section 34H(5) of the Act, definition *transport security measures*, the measure prescribed is control of access to the security enhanced source during transport.

(2) The measure prescribed under subsection (1) includes the following details for each threat level—

(a) how access to the security enhanced source is to be controlled;

(b) the arrangements for the supervision of persons who may be allowed access to the security enhanced source;

(c) the interval at which staff access to the security enhanced source during transport is to be reviewed;

(d) when, between intervals, staff access to the security enhanced source during transport is to be reviewed;

(e) the interval at which the details mentioned in paragraphs (a) and (b) are to be reviewed.

41 Transport security equipment [s 45]

(1) For section 34H(5) of the Act, definition *transport security measures*, the following measures are prescribed—

(a) the use of security-related equipment to protect the security enhanced source during transport;

(b) checks of the security-related equipment for wear and tear or correct operation.

(2) The measure prescribed under subsection (1)(a) includes the following details of the security-related equipment to be used for each threat level—

(a) the type of equipment to be used;

(b) how and when the equipment is to be used;

(c) the interval at which the equipment is to be checked for wear and tear or correct operation;

(d) the person who will be required to check the equipment, described by reference to the abilities of the person to perform the task;

(e) how the outcome of the check of the equipment is to be recorded.

Examples of security-related equipment—

bolts, containers, vehicle-tracking equipment

(3) The measure prescribed under subsection (1)(b) includes each of the following details for each type of security-related equipment for each threat level—

(a) the checks to be undertaken to test wear and tear or correct operation;

(b) the expected outcome of each check;

(c) the person who will be required to check the equipment, described by reference to the abilities of the person to perform the task;

(d) the interval at which the equipment is to be checked for wear and tear or correct operation;

(e) how the actual outcome of the check of the equipment is to be recorded;

(f) if the actual outcome of the check of the equipment is different from the expected outcome—the procedures to be followed to fix the deficiency.

42 Transport security persons [s 46]

(1) For section 34H(5) of the Act, definition *transport security measures*, the measure prescribed is the use of transport security persons to guard the security enhanced source during transport.

Examples of transport security persons—

a security officer, a police officer

(2) The measure prescribed under subsection (1) includes the following details for each threat level—

(a) the duties and responsibilities allocated to each of the transport security persons in relation to the measure;

(b) the criminal history check or security check requirements that each transport security person is required to undergo in order to undertake the person's

transport-related activities with the security enhanced source.

43 Confirmation of source

(1) For section 34H(5) of the Act, definition *transport security measures*, the measure prescribed is confirming the presence or quantity of the security enhanced source during transport.

(2) The measure prescribed under subsection (1) includes the following details for each threat level—

(a) the interval at which a person is to confirm the presence of the security enhanced source;

(b) the person who is to confirm the presence of the security enhanced source, described by reference to the person's abilities to perform the task.

44 Transport security briefing [s 46(b)]

(1) For section 34H(5) of the Act, definition *transport security measures*, the measure prescribed is conducting security awareness briefings for persons involved in transporting the security enhanced source.

(2) The measure prescribed under subsection (1) includes details of the information each person involved in transporting the security enhanced source is to be given about—

(a) the nature of the threat; and

(b) the threat level; and

(c) the security response arrangements; and

(d) the contingency arrangements.

45 Security-related information [s 48]

(1) For section 34H(5) of the Act, definition *transport security measures*, the measure prescribed is maintaining the security

of security-related information for the transport of the security enhanced source.

(2) The measure prescribed under subsection (1) includes details of how, for each threat level, the security-related information is to be secured, including—

(a) who is responsible for the information; and

(b) what information is to be kept secure; and

(c) where the information is to be kept; and

(d) who is allowed access to the information; and

(e) how the information is to be kept secure.

(3) In this section—

security-related information, in relation to the transport of a security enhanced source, means information about the measures, systems, infrastructure and other things used for each threat level to secure the source during transport.

Examples of security-related information—

information related to travel routes, pin codes, passwords or the location of keys

46 Transport security response arrangements [s 49(a)]

(1) For section 34H(5) of the Act, definition *transport security measures*, the following measures are prescribed—

(a) the arrangements developed for responding to a security breach during the transport of the security enhanced source (the ***security response arrangements***);

(b) checks of the security response arrangements.

(2) The measure prescribed under subsection (1)(a) includes the following detail for each threat level—

(a) the security response arrangements for each contingency;

(b) the process for giving notice of a security breach.

(3) The measure prescribed under subsection (1)(b) includes each of the following details for each contingency for each threat level—

(a) the checks to be undertaken to test the security response arrangements;

(b) the expected outcome of each check;

(c) the interval at which the security response arrangements are to be checked;

(d) how the actual outcome of the check of the security response arrangements is to be recorded;

(e) if the actual outcome of the check of the security response arrangements is different from the expected outcome—the procedures to be followed to fix the deficiency.

47 Change of threat level [s 49(b)]

(1) For section 34H(5) of the Act, definition *transport security measures*, the measure prescribed is updating security arrangements to adapt to a change in the threat level.

(2) The measure prescribed under subsection (1) includes the following details—

(a) the actions to be taken to adapt to the new threat level;

(b) the persons who are to take the actions, described by reference to the person's abilities to perform the task.

48 Other information [s 43]

For section 34H(2)(l) of the Act, the other particular prescribed is the purpose or reason for which the security enhanced source is being transported.

Part 6 Radiation safety officers

49 Qualifications—Act, s 36 [s 50]

For section 36(3) of the Act, each of the qualifications stated in schedule 4, column 2 is prescribed for the radiation practice mentioned opposite in column 1 of the schedule.

50 Functions—Act, s 37 [s 51]

For section 37(2)(b)(iii) of the Act, the other persons prescribed are—

(a) persons who observe the carrying out of the radiation practice, other than the persons mentioned in section 37(2)(b)(i) or (ii) of the Act; and

(b) if the radiation practice is a diagnostic or therapeutic procedure involving the irradiation of a person as the treated person—persons involved in carrying out the procedure, other than the persons mentioned in section 37(2)(b)(i) or (ii) of the Act or the treated person.

Part 7 Radiation monitoring

51 Information in personal monitoring records—Act, s 38 [s 52]

For section 38(4)(b) of the Act, the following information is prescribed—

(a) the name, gender and date of birth of the monitored person;

(b) the name and postal address of the licensee;

(c) the date the monitored person started to be monitored for any radiation doses received in relation to the carrying out of the radiation practice;

(d) the date the monitored person stopped being monitored for any radiation doses received in relation to the carrying out of the radiation practice;

(e) details of the basis for the monitored person being required to be provided with, or to wear, a personal monitoring device;

(f) the type of radiation to which the monitored person has been exposed in relation to the carrying out of the radiation practice;

(g) for each assessment of a personal monitoring device worn by the monitored person in relation to the carrying out of the radiation practice—

(i) the period to which the assessment relates; and

(ii) estimated total effective dose, worked out under the assessment, for the monitored person for the period;

(iii) details of the methodology used in the assessment.

Part 8 Radiation dose limits for particular types of exposure

Division 1 Ionising radiation

Subdivision 1 Preliminary

52 Definitions for division

In this division—

external effective dose, received by a person, means the total of the weighted equivalent doses for all organs and tissues of the person as a result of exposure of the organs and tissues to radiation emitted from ionising radiation sources external to the person's body.

health-related exposure, of a person to ionising radiation, means the exposure of the person to ionising radiation—

(a) while undergoing a diagnostic or therapeutic procedure involving the irradiation of the person; or

(b) while involved in carrying out a diagnostic or therapeutic procedure involving the irradiation of a person, other than as the treated person or in the course of the person's work; or

(c) while involved in carrying out a radiation practice, as a voluntary participant in health-related research.

internal effective dose, received by a person, means the effective dose from a radionuclide inhaled, ingested or introduced into the person's body, calculated in accordance with—

(a) for a radionuclide mentioned in a relevant part of the series 'Occupational Intakes of Radionuclides' prepared by the International Commission on Radiological Protection—

(i) the document called 'Occupational Intakes of Radionuclides: part 1' prepared by the International Commission on Radiological Protection; and

(ii) the relevant part of the series called 'Occupational Intakes of Radionuclides' for the radionuclide; or

(b) for a radionuclide not mentioned in a relevant part of the series 'Occupational Intakes of Radionuclides'—the document called 'Dose Coefficients for Intakes of Radionuclides by Workers', and known as 'ICRP Publication 68', prepared by the International Commission on Radiological Protection.

natural background exposure, of a person to ionising radiation, means the exposure of the person to ionising radiation occurring naturally in the environment.

occupational exposure, of a person to ionising radiation, means the exposure of the person to ionising radiation in the

course of the person's work, other than exposure that is natural background exposure.

public exposure, of a person to ionising radiation, means the exposure of the person to ionising radiation, other than exposure that is health-related exposure, natural background exposure or occupational exposure.

relevant part, of the series called 'Occupational Intakes of Radionuclides', means any of the following documents—

(a) the document called 'Occupational Intakes of Radionuclides: part 2', and known as 'ICRP Publication 134' prepared by the International Commission on Radiological Protection;

(b) the document called 'Occupational Intakes of Radionuclides: part 3', and known as 'ICRP Publication 137' prepared by the International Commission on Radiological Protection;

(c) the document called 'Occupational Intakes of Radionuclides: part 4', and known as 'ICRP Publication 141' prepared by the International Commission on Radiological Protection.

total effective dose, for a person for a period, means the total of the external effective doses and the internal effective doses received by the person during the period.

weighted equivalent dose, for a person's organ or tissue that is exposed to radiation, means the product of—

(a) the tissue weighting factor for the organ or tissue stated in the glossary of the document called 'Code for Radiation Protection in Planned Exposure Situations' (2020) published by ARPANSA; and

(b) the equivalent dose for the organ or tissue.

Subdivision 2 Occupational exposure

53 Exposure of particular persons—Act, s 37 [ss 53(2) and (3), 57(2)]

(1) This section applies if the radiation source for the radiation practice mentioned in section 37(1) of the Act is an ionising radiation source.

(2) For section 37(2)(c)(i) of the Act, the following radiation dose limits are prescribed for the occupational exposure of a person to ionising radiation from the radiation source—

(a) for an adult, other than a pregnant woman, while involved in carrying out the radiation practice—each of the doses stated in schedule 5, part 1;

(b) for a person who is 16 or 17 years, other than a pregnant woman, while involved in carrying out the radiation practice—each of the doses stated in schedule 5, part 2;

(c) for a pregnant woman, while involved in carrying out the radiation practice—a total effective dose of 1mSv during the remainder of the pregnancy;

(d) for a person, other than while involved in carrying out the radiation practice—each of the doses stated in schedule 5, part 3.

(3) For subsection (2), a reference to a pregnant woman is a reference to a woman of whose pregnancy the use licensee carrying out the diagnostic or therapeutic procedure is aware, or ought reasonably be aware.

54 Exposure of particular persons—Act, s 41 [ss 53(2), 57(2), (4)(a)]

(1) This section applies if the radiation source for the diagnostic or therapeutic procedure mentioned in section 41(5) of the Act is an ionising radiation source.

(2) For section 41(5) of the Act, the following radiation dose limits are prescribed for the occupational exposure of a person to ionising radiation from the radiation source—

(a) for an adult, other than a pregnant woman—each of the doses stated in schedule 5, part 1;

(b) for a person who is 16 or 17 years, other than a pregnant woman—each of the doses stated in schedule 5, part 2;

(c) for a pregnant woman—a total effective dose of 1mSv during the remainder of the pregnancy.

(3) For subsection (2), a reference to a pregnant woman is a reference to a woman of whose pregnancy the use licensee carrying out the diagnostic or therapeutic procedure is aware, or ought reasonably be aware.

55 Exposure of particular persons—Act, s 42 [ss 53(2) and (3), 57(2), (4)(b)]

(1) This section applies if the radiation source for the radiation practice mentioned in section 42(1) of the Act is an ionising radiation source.

(2) For section 42(2) of the Act, the following radiation dose limits are prescribed for the occupational exposure of a person to ionising radiation from the radiation source—

(a) for an adult, other than a pregnant woman, while involved in carrying out the radiation practice—each of the doses stated in schedule 5, part 1;

(b) for a person who is 16 or 17 years, other than a pregnant woman, while involved in carrying out the radiation practice—each of the doses stated in schedule 5, part 2;

(c) for a pregnant woman, while involved in carrying out the radiation practice—a total effective dose of 1mSv during the remainder of the pregnancy;

(d) for a person, other than while involved in carrying out the radiation practice—each of the doses stated in schedule 5, part 3.

(3) For subsection (2), a reference to a pregnant woman is a reference to a woman of whose pregnancy the person carrying out the radiation practice is aware, or ought reasonably be aware.

56 Radiation hazards—Act, ss 127, 132 and 133 [ss 53(2), (3) and 57(2) and (3)]

(1) This section applies if the thing mentioned in section 127(1)(a), 132(4)(b) or 133(2)(c) of the Act is an ionising radiation source used to carry out a radiation practice.

(2) For section 127(1)(b), 132(4)(b) and 133(2)(c) of the Act, the following radiation dose limits are prescribed for the occupational exposure of a person to ionising radiation from the radiation source—

(a) for an adult, other than a pregnant woman, while involved in carrying out the radiation practice—each of the doses stated in schedule 5, part 1;

(b) for a person who is 16 or 17 years, other than a pregnant woman, while involved in carrying out the radiation practice—each of the doses stated in schedule 5, part 2;

(c) for a pregnant woman, while involved in carrying out the radiation practice—a total effective dose of 1 mSv during the remainder of the pregnancy;

(d) for a person, other than while involved in carrying out the radiation practice—each of the doses stated in schedule 5, part 3.

(3) For subsection (2), a reference to a pregnant woman is a reference to a woman of whose pregnancy the inspector is aware, or ought reasonably be aware.

Subdivision 3 Public exposure

57 Exposure of particular persons—Act, ss 37 and 42 [ss 54(2) and (3)]

(1) This section applies if the radiation source for the radiation practice mentioned in section 37(1) or 42(1) of the Act is an ionising radiation source.

(2) For sections 37(2)(c)(i) and 42(2) of the Act, the radiation dose limits prescribed for the public exposure of a person to ionising radiation while the radiation practice is carried out are each of the doses stated in schedule 5, part 3.

58 Radiation hazards—Act, ss 127, 132 and 133 [s 54(2) and (3)]

(1) This section applies if the thing mentioned in section 127(1)(a), 132(4)(b) or 133(2)(c) of the Act is an ionising radiation source.

(2) For sections 127(1)(b), 132(4)(b) and 133(2)(c) of the Act, the radiation dose limits prescribed for the public exposure of a person to ionising radiation from the radiation source are each of the radiation doses stated in schedule 5, part 3.

Subdivision 4 Other exposure

59 Exposure of particular persons—Act, ss 37, 41 [s 55]

(1) This section applies if—

(a) a use licensee, under the licence, uses an ionising radiation source to carry out a diagnostic or therapeutic procedure involving the irradiation of a person as the treated person; and

(b) a person, other than the treated person, involved in carrying out the procedure is exposed to ionising radiation.

(2) For sections 37(2)(c)(i) and 41(5) of the Act, the radiation dose limit prescribed for the exposure of the person involved in carrying out the diagnostic or therapeutic procedure to ionising radiation from the radiation source is a total effective dose of 5mSv in any 12-month period.

(3) Subsection (2) does not apply if the exposure is an occupational exposure to the ionising radiation.

60 Radiation hazards—Act, ss 127, 132 and 133 [s 55]

(1) This section applies if—

(a) the thing mentioned in section 127(1)(a), 132(4)(b) or 133(2)(c) of the Act is an ionising radiation source; and

(b) the place mentioned in section 127(1)(a) is a place at which a diagnostic or therapeutic procedure, involving the irradiation of a person is carried out.

(2) For section 127(1)(b), 132(4)(b) and 133(2)(c) of the Act, the radiation dose limit prescribed for the exposure of a person, other than a treated person, to ionising radiation from the radiation source is a total effective dose of 5mSv in any 12-month period.

(3) Subsection (2) does not apply if the exposure is an occupational exposure to the ionising radiation.

Subdivision 5 Miscellaneous

61 Mineral substances that are not radioactive substances [s 58]

(1) This section applies to a person who possesses a mineral substance that is radioactive material, but not a radioactive substance.

(2) The person must ensure that another person does not receive a total effective dose from ionising radiation emitted from the mineral substance that is—

(a) for occupational exposure of an adult—more than 20mSv in any 12-month period; or

(b) for occupational exposure of a person who is 16 or 17 years—more than 6 mSv in any 12-month period; or

(c) for public exposure of the other person—more than 1mSv in any 12-month period.

Maximum penalty—20 penalty units.

Division 2 Non-ionising radiation

62 Exposure of particular persons to non-ionising radiation—Act, s 37 [s 59]

(1) This section applies if the radiation source mentioned in section 37(1) of the Act is a laser apparatus used to carry out a diagnostic, therapeutic or cosmetic procedure.

(2) For section 37(2)(c)(ii) of the Act, the radiation dose limit prescribed for the exposure of a person to non-ionising radiation from the radiation source is the radiation dose resulting from exposure to the maximum permissible exposure values calculated in accordance with Annex A of the laser standard.

63 Exposure of particular persons to non-ionising radiation—Act, s 41 [s 60]

(1) This section applies if the radiation source for the radiation practice mentioned in section 41(5) of the Act is a laser apparatus used to carry out a diagnostic or therapeutic procedure.

(2) For section 41(5) of the Act, the radiation dose limit prescribed for the exposure of a person to non-ionising radiation from the radiation source is the radiation dose resulting from exposure to the maximum permissible exposure values calculated in accordance with Annex A of the laser standard.

64 Exposure of particular persons to non-ionising radiation during cosmetic procedure—Act, s 42 [s 61]

(1) This section applies if the radiation source for the radiation practice mentioned in section 42(1) of the Act is a laser apparatus used to carry out a cosmetic procedure.

(2) For section 42(2) of the Act, the radiation dose limit prescribed for the exposure of a person to non-ionising radiation from the radiation source is the radiation dose resulting from exposure to the maximum permissible exposure values calculated in accordance with Annex A of the laser standard.

65 Radiation hazards— Act, ss 127, 132 and 133 [s 62]

(1) This section applies if the thing mentioned in section 127(1)(a), 132(4)(b) and 133(2)(c) of the Act is a radiation apparatus that is a laser.

(2) For sections 127(1)(b), 132(4)(b) and 133(2)(c) of the Act, the radiation dose limit prescribed for the exposure of a person to non-ionising radiation from the radiation apparatus is the radiation dose resulting from exposure to the maximum permissible exposure values calculated in accordance with Annex A of the laser standard.

Part 9 Authorised persons

66 Authorised persons for diagnostic or therapeutic procedures— Act, s 41 [s 63]

For section 41(1) of the Act—

(a) for a diagnostic procedure stated in schedule 6, part 1, column 1, a person stated in schedule 6, part 1, column 2 opposite the procedure is an authorised person; or

(b) for a therapeutic procedure stated in schedule 6, part 2, column 1, a person stated in schedule 6, part 2, column 2 opposite the procedure is an authorised person.

67 Physician assistant authorised under practice plans—Act, s 41 [s 64]

(1) For section 41(1) of the Act, a physician assistant is authorised to request a diagnostic procedure stated in schedule 6, part 1, column 1 if—

(a) the practice plan developed for the physician states that the physician assistant may request the diagnostic procedure; and

(b) the physician assistant requests the diagnostic procedure under the supervision of the physician assistant's supervising medical officer; and

(c) the supervising medical officer is authorised under section 66 to request the diagnostic procedure.

(2) In this section—

physician assistant means a person—

(a) appointed by the chief executive, and employed by the department, as a physician assistant; or

(b) appointed by a Hospital and Health Service established under the *Hospital and Health Boards Act 2011*, and employed by the Service, as a physician assistant.

practice plan, for a physician assistant, means a document that—

(a) is developed and signed by the physician assistant and the physician assistant's supervising medical officer; and

(b) states the circumstances and conditions for a physician assistant to request a specified diagnostic procedure; and

(c) is in a form approved by the chief executive.

supervising medical officer, for a physician assistant, means a person who—

(a) is a medical practitioner; and

(b) supervises the work performed by the physician assistant in the physician assistant's employment with

the department or a Hospital and Health Service established under the *Hospital and Health Boards Act 2011*.

Part 10 Banned radiation sources

68 Banned radiation sources for possession—Act, s 47 [s 64A]

For section 47(1) of the Act, a relevant solarium is prescribed to be a banned radiation source in relation to the possession of the relevant solarium.

Part 11 Act instruments [Part 3]

Division 1 General

69 Documents relating to proof of identity—Act, s 51 [s 10]

(1) For section 51(1)(c)(ii) and (iii) of the Act, each of the following documents is prescribed—

(a) a copy of 1 document mentioned in schedule 7, part 1;

(b) a copy of 1 document mentioned in schedule 7, part 2.

(2) At least 1 of the documents must contain a photograph of the applicant or nominated person.

(3) In this section—

copy, of a document, means a reproduction of the document in the way required or permitted by the approved form for the relevant application.

relevant application means any of the following—

(a) an application for a possession licence;

(b) an application for a transport licence;

(c) an application for a use licence;

(d) an application for an accreditation certificate;

(e) an application for a radiation safety officer certificate.

70 Prescribed sealed radioactive substance—Act, s 52 [s 12]

(1) For section 52(2) of the Act, definition *prescribed sealed radioactive substance*, an iodine-125 seed with an activity of not more than 40MBq is prescribed for brachytherapy.

(2) In this section—

iodine-125 seed means iodine-125 as a sealed radioactive substance.

71 Certain possession, use or transport licences—Act, s 75 [s 13]

(1) For section 75(3) of the Act, the code, protocol, standard or document mentioned in column 2 of the following table is prescribed for the holder of a possession licence or use licence mentioned opposite in column 1 of the table—

	Column 1 **Possession licence or use licence**	**Column 2** **Code, protocol, standard or document**
1	possess or use an ionising radiation source for dental plain diagnostic imaging involving the irradiation of a person	'Code of Practice for Radiation Protection in Dentistry (2005)', published by ARPANSA
2	possess or use an ionising radiation source for conducting health-related research on persons	'Code of Practice for the Exposure of Humans to Ionizing Radiation for Research Purposes (2005)', published by ARPANSA

	Column 1 Possession licence or use licence	Column 2 Code, protocol, standard or document
3	possess or use a sealed source apparatus for density gauging or moisture gauging for geotechnical purposes	'Code of Practice for Portable Density/Moisture Gauges Containing Radioactive Sources (2004)', published by ARPANSA
4	possess or use a radioactive substance to carry out a diagnostic or therapeutic procedure involving the irradiation of a person	'Recommendations for the Discharge of Patients Undergoing Treatment with Radioactive Substances (2002)' published by ARPANSA
5	possess or use an ionising radiation source to carry out a diagnostic or therapeutic procedure involving the irradiation of a person	'Code for Radiation Protection in Medical Exposure (2019)' published by ARPANSA
6	possess or use an ionising radiation source for industrial gauging	'Code of Practice for Safe Use of Fixed Radiation Gauges (2007)' published by ARPANSA
7	possess or use a radiation source that is a security enhanced source	'Code of Practice for the Security of Radioactive Sources (2019)' published by ARPANSA
8	possess or use an ionising radiation source to carry out a diagnostic or therapeutic procedure involving irradiation of an animal	'Code of Practice for Radiation Protection in Veterinary Medicine (2009)' published by ARPANSA

	Column 1 Possession licence or use licence	Column 2 Code, protocol, standard or document
9	possess or use an ionising radiation source to carry out a diagnostic procedure involving the irradiation of a person by a chiropractor	'Code of Practice for Radiation Protection in the Application of Ionizing Radiation by Chiropractors (2009)' published by ARPANSA

Editor's note—

Copies of the documents mentioned in column 2 are available on ARPANSA's website.

(2) For section 75(4) of the Act, each of the following codes, protocols, standards or documents is prescribed—

(a) the transport code of practice;

(b) for a radiation source that is a security enhanced source—the 'Code of Practice for the Security of Radioactive Sources (2019)' published by ARPANSA.

Editor's note—

Copies of the codes mentioned in paragraphs (a) and (b) are available on ARPANSA's website.

72 Notification of change of circumstances—Act, s 92 [s 11]

(1) For section 92(2) of the Act, the following changes in the holder's circumstances are prescribed—

(a) for the holder of a licence—

(i) if the licence holder is not a prescribed licensee—a change in the holder's name; or

(ii) if the licence is a use licence and the holder is a health practitioner or a veterinary surgeon—

(A) a change in the holder's accreditation, enrolment or registration as a health practitioner or a veterinary surgeon; or

(B) a change in a condition attaching to the accreditation, enrolment or registration;

(b) for the holder of an accreditation certificate—

(i) a change in the holder's name;

(ii) a change in the holder's contact details;

(c) for the holder of a continuing approval to acquire—a change in the holder's name;

(d) for the holder of a radiation safety officer certificate—a change in the holder's name.

(2) In this section—

veterinary surgeon see the *Veterinary Surgeons Act 1936*, schedule.

73 Relevant offences [s 14]

For schedule 2 of the Act, definition *relevant offence*, paragraph (d), each of the following offences is prescribed—

(a) an offence under the *Criminal Code Act 1995* (Cwlth), schedule, chapter 5;

(b) an offence under a State law corresponding to an offence mentioned in the *Criminal Code Act 1995* (Cwlth), schedule, part 5.1;

(c) an offence under the *Weapons of Mass Destruction (Prevention of Proliferation) Act 1995* (Cwlth), section 9;

(d) an offence under the *Customs Act 1901* (Cwlth) relating to the importation or exportation of radioactive material;

(e) an identity-related offence including an offence related to—

(i) assuming another person's identity; or

(ii) counterfeiting documents related to a person's identity; or

(iii) falsifying documents related to a person's identity;

(f) an offence related to the hijacking or destruction of an aircraft or sea vessel;

(g) an offence involving weapons or explosives including an offence related to possession, supply, production, importation, exportation or unlicensed use;

(h) an offence involving prohibited drugs including an offence related to—

(i) possession, if the maximum penalty prescribed is more than 2 years imprisonment; or

(ii) possession of equipment for the manufacture of a prohibited drug; or

(iii) supply, production, importation or exportation;

(i) an offence involving the production, importation or exportation of firearms.

Division 2 Prescribed licensees

74 Use licensee—Act, s 103K [s 14A]

(1) For section 103K(1)(a) and (2)(a) of the Act, the class of persons prescribed is persons registered under the Health Practitioner Regulation National Law to practise in the dental profession as a dentist, other than as a student.

(2) For section 103K(2)(b) of the Act, the radiation source the prescribed licensee is allowed to use is an intra-oral dental plain diagnostic imaging radiation apparatus.

(3) For section 103K(2)(c) of the Act, the radiation practice the prescribed licensee is allowed to carry out is intra-oral dental plain diagnostic imaging, involving the irradiation of a person.

75 Transport licensee—Act, s 103K [s 14B]

(1) For section 103K(1)(b) of the Act, the class of persons prescribed is persons holding an authority under a

corresponding transport law to transport a radioactive substance.

(2) For section 103K(4) of the Act, the condition prescribed is that the prescribed licensee may only transport the radioactive substance into Queensland.

(3) In this section—

authority includes an accreditation, approval, certification or licence.

corresponding transport law means a law of another State or the Commonwealth relating to the transportation of radioactive substances.

Part 12 Registers

76 Register of licensees—Act, s 207 [s 81(1)]

For section 207(2) of the Act, for the register about licensees, other than prescribed licensees, the following information for each licensee is prescribed—

(a) the licensee's name;

(b) the licence number;

(c) the licence type;

(d) the expiry date of the licence;

(e) any conditions on the licence;

(f) if the licensee is a possession licensee—

(i) particulars of the radiation source the licensee is allowed to possess; and

(ii) the radiation practice for which the licensee is allowed to possess the source;

(g) if the licensee is a use licensee—

(i) particulars of the radiation source the licensee is allowed to use; and

(ii) the radiation practice the licensee is allowed to carry out using the source;

(h) if the licensee is a transport licensee—

(i) particulars of the radioactive substance the licensee is allowed to transport; and

(ii) how the substance is to be transported; and

(iii) the amount of the substance the licensee is allowed to transport at a time.

77 Register of accredited persons—Act, s 207 [s 82]

For section 207(2) of the Act, for the register about accredited persons, the following information for each accredited person is prescribed—

(a) the accredited person's name;

(b) the accreditation certificate number;

(c) the expiry date of the accreditation certificate;

(d) any conditions of the accreditation certificate;

(e) the type of radiation source or premises for which the accredited person may issue a certificate of compliance;

(f) the accredited person's contact details.

78 Register of qualified persons—Act, s 207 [s 83]

For section 207(2) of the Act, for the register about qualified persons, the following information for each qualified person is prescribed—

(a) the qualified person's name;

(b) the radiation safety officer certificate number;

(c) the expiry date of the radiation safety officer certificate;

(d) any conditions of the radiation safety officer certificate;

(e) the radiation practice for which the qualified person may perform the functions of a radiation safety officer.

79 Register of inspectors—Act, s 207 [s 84]

For section 207(2) of the Act, for the register about inspectors, all of the following information for each inspector is prescribed—

(a) the inspector's name;

(b) if the inspector is appointed for a term—the term of the appointment;

(c) any conditions of the inspector's appointment.

80 Register of State radiation analysts—Act, s 207 [s 85]

For section 207(2) of the Act, for the register about State radiation analysts, all of the following information for each State radiation analyst is prescribed—

(a) the analyst's name;

(b) if the analyst is appointed for a term—the term of the appointment;

(c) any conditions of the analyst's appointment.

81 Register of cancelled or suspended prescribed licensees—Act, s 207 [s 81(2)]

For section 207(2) of the Act, for the register about prescribed licensees whose licences have been suspended or cancelled, the following information for each prescribed licensee is prescribed—

(a) if the licensee's licence has been suspended and the period of suspension has not ended—

(i) the licensee's name; and

(ii) the day the decision to suspend the licence takes effect; and

(iii) the period of the suspension; or

(b) if the licensee's licence has been cancelled—

(i) the licensee's name; and

(ii) the day the decision to cancel the licence takes effect.

Part 13 Disclosure of protected information

82 Disclosure of protected information—Act, s 209 [s 86]

For section 209(4) of the Act, the following purposes are prescribed—

(a) for the development of a plan to avoid or limit the impact of an emergency situation on persons, property or the environment;

(b) to enable a person dealing with an emergency situation to know the hazards, or possible hazards, the person may face in dealing with the emergency situation;

(c) to protect national security, including, for example—

(i) to facilitate the tracking of radiation sources within or outside Australia; and

(ii) to enable State or national alerts, advisory documents and other relevant information to be provided about an incident involving a radiation source; and

(iii) in the case of a security breach relating to a radiation source, to enable a coordinated response to be initiated and implemented; and

(iv) to monitor and evaluate initiatives implemented to ensure the security of radiation sources; and

(v) to help the development, review or improvement of policies, operational guidelines, codes, standards or legislation relating to national security; and

(vi) to develop or implement training programs about the security of radiation sources, including policies, codes, standards or legislation relating to the programs; and

(vii) to undertake or facilitate research about best practice associated with the security of radiation sources.

Part 14 Exemptions

Division 1 Requirement for use licence

83 Prescribed radiation practices—Act, s 13, definition *prescribed radiation practice* [s 66]

(1) For section 13(3) of the Act, definition *prescribed radiation practice*, the following radiation practices are prescribed—

(a) industrial radiography involving the use of an ionising radiation source;

(b) borehole or well logging involving the use of a sealed source apparatus;

(c) density gauging, or moisture gauging, for geotechnical purposes, involving the use of a sealed source apparatus;

(d) the preparation of a radioactive substance or radiation apparatus, or assembly of a sealed source apparatus, for use in carrying out a diagnostic or therapeutic procedure involving the irradiation of a person;

(e) the commissioning, maintenance or repair of radiation sources or sealed source apparatus;

(f) the compliance testing of a radiation source by a relevant accredited person for a radiation source of that

type, involving the use of the source or another radiation source;

(g) the compliance testing of premises by a relevant accredited person for premises of that type, involving the use of a radiation source;

(h) the undertaking of quality control procedures, in relation to—

(i) a radiation source, involving the use of another radiation source; or

(ii) a sealed source apparatus, involving the use of a radiation source.

(2) In this section—

compliance testing, of a radiation source or premises, means assessing whether the source or premises comply with the relevant radiation safety standard.

relevant accredited person, for a type of radiation source or premises, means an accredited person who, under the person's accreditation certificate, is allowed to issue a certificate of compliance for the type of radiation source or premises.

84 Training—Act, s 13 [s 67]

(1) For section 13(2)(b)(ii) of the Act, the following training is prescribed—

(a) training requiring a person to use a radiation source at an educational institution, other than—

(i) training involving the actual irradiation by the trainee of a person as part of a diagnostic or therapeutic procedure; or

(ii) training requiring a person to use a non-ionising radiation apparatus for a cosmetic purpose;

(b) training, approved by the chief executive, requiring a person to use a non-ionising radiation apparatus for a

cosmetic purpose at an educational institution or other entity.

(2) For subsection (1)(b), the chief executive must, by notice published on the department's website, approve training at an educational institution or other entity if the chief executive is satisfied—

(a) the training requires students to undertake practical and theoretical training to complete the course of study; and

(b) the practical training provided by the educational institution or entity is of an acceptable standard; and

(c) the theoretical training provided by the educational institution or entity is of an acceptable standard; and

(d) the educational institution or entity assesses—

(i) the competency of students on completion of the practical training; and

(ii) the theoretical components of the training provided in the course of study.

(3) A list of all of the training approved by the chief executive for subsection (1)(b) must be published on the department's website.

(4) In this section—

non-ionising radiation apparatus means an apparatus mentioned in schedule 2 of the Act, definition *radiation apparatus*, paragraph (c) or (d).

Division 2 Radiation sources

85 Exemption from requirement for possession licence—Act, s 210 [s 68]

For section 210 of the Act, a radioactive substance containing the radionuclide americium-241, hydrogen-3 or nickel-63 is exempt from section 12 of the Act if—

(a) the radioactive substance is incorporated in a sealed source apparatus; and

(b) the apparatus is used for gas chromatography or ion mobility spectrometry.

86 Exemption from requirement for use licence—Act, s 210 [s 69]

(1) For section 210 of the Act, the following radiation sources are exempt from section 13 of the Act—

(a) the sealed radioactive substance incorporated in a sealed source apparatus, if the apparatus is used for chemical analysis or industrial gauging;

(b) a sealed radioactive substance, having an activity of not more than 370MBq, used for—

(i) calibration checks of measuring instruments; or

(ii) quality control procedures undertaken for—

(A) another radiation source or a sealed source apparatus; or

(B) if another radiation source is used to carry out a radiation practice involving the production of images—any ancillary imaging equipment used in connection with the use of the other source to carry out the practice;

(c) a sealed radioactive substance, having an activity of not more than 4MBq, used for transferring anatomical landmarks to images produced using a gamma camera;

(d) a radioactive substance, having an activity of not more than 500kBq, used for an in vitro test;

(e) a sealed radioactive substance used for static elimination.

(2) For section 210 of the Act, the following radiation sources are exempt from section 13 of the Act, other than to the extent the

radiation source is used by a person who is carrying out the commissioning, maintenance or repair of the source—

(a) a cabinet radiation apparatus used for its intended use;

(b) an enclosed analytical apparatus used for its intended use;

(c) an enclosed radiation apparatus used for its intended use;

(d) a laser apparatus designed only for puncturing a person's skin to obtain capillary blood samples;

(e) a radiation apparatus or sealed source apparatus designed for irradiation for sterilisation, disinfestation or similar purposes;

(f) a radiation apparatus used for industrial gauging.

(3) In this section—

enclosed analytical apparatus means an ionising radiation apparatus, used for chemical analysis, in which—

(a) the radiation source, the sample for analysis and equipment irradiated in the analytical process are enclosed in a chamber, or coupled chambers, designed to prevent any person being exposed to the primary x-ray beam of the source during normal operation of the apparatus; and

(b) the use of the chamber, or coupled chambers, is controlled by an interlock with the power supply to the x-ray tube for the apparatus.

interlock, for an enclosed analytical apparatus, means a device that—

(a) prevents the apparatus from being energised unless the device is engaged; and

(b) if disengaged, causes the x-ray tube for the apparatus to de-energise automatically; and

(c) if re-engaged after being disengaged, does not cause the x-ray tube to re-energise automatically.

87 Exemption from requirement for transport licence—Act, s 210 [s 70]

(1) For section 210 of the Act, a radioactive substance enclosed in an excepted package is exempt from sections 14 and 15 of the Act if the package is transported in accordance with the transport code of practice.

(2) Subsection (3) applies to a sealed radioactive substance incorporated in a sealed source apparatus, if the apparatus is used by a use licensee under a use licence to carry out 1 of the following radiation practices—

(a) borehole or well logging;

(b) density gauging, or moisture gauging, for geotechnical purposes;

(c) industrial radiography.

(3) For section 210 of the Act, the sealed radioactive substance is exempt from sections 14 and 15 of the Act if the sealed source apparatus is transported by the use licensee in accordance with the transport code of practice.

(4) In this section—

excepted package has the meaning given in the transport code of practice.

88 Smoke detectors—Act, s 210 [s 71]

(1) For section 210 of the Act—

(a) a radioactive substance incorporated in a domestic smoke detector is exempt from sections 12, 13 and 26 of the Act; and

(b) a radioactive substance incorporated in an ionisation chamber smoke detector that is not a domestic smoke detector is exempt from sections 12 and 13 of the Act if the detector was—

(i) acquired before 1 January 2000; or

(ii) manufactured in accordance with AS 1603.2-1997 (Automatic fire detection and alarm systems, Part 2: Point type smoke detectors).

(2) To remove any doubt, it is declared that subsection (1) does not apply while the detector is being manufactured or repaired.

(3) In this section—

domestic smoke detector means an ionisation chamber smoke detector that—

(a) contains the radionuclide americium-241 with an activity of not more than 37kBq; and

(b) was manufactured in accordance with AS 3786-1993 (Smoke alarms), second edition.

89 Particular radioactive substances, incorporated in items to produce light—Act, s 210 [s 72]

(1) For section 210 of the Act—

(a) a radioactive substance containing the radionuclide promethium-147 or hydrogen-3, incorporated in an item to produce light, is exempt from sections 12, 13 and 26 of the Act; and

(b) a radioactive substance containing the radionuclide radium-226, incorporated in an item to produce light, is exempt from sections 12 and 13 of the Act; and

(c) a radioactive substance containing the radionuclide krypton-85, incorporated in an item to produce, or help to produce light, is exempt from sections 12, 13 and 26 of the Act.

(2) Subsection (1) does not apply if the item is a gaseous tritium light device.

(3) Also, to remove doubt, it is declared that subsection (1) does not apply while the item is being manufactured or repaired.

90 Gaseous tritium light devices—Act, s 210 [s 73]

For section 210 of the Act, a radioactive substance containing the radionuclide hydrogen-3 with an activity of less than 74GBq, incorporated as a sealed radioactive substance in a gaseous tritium light device, is exempt from sections 12 and 13 of the Act if—

(a) the device is being used as a safety, or warning, sign; and

(b) not more than 2% of the radionuclide is contained in water.

91 Depleted uranium—Act, s 210 [s 74]

(1) For section 210 of the Act, a radioactive substance that is depleted uranium is exempt from sections 12, 14 and 15 of the Act if the uranium—

(a) is being used as ballast in an aircraft or ship; and

(b) is totally encased in a metallic sheath; and

(c) is in solid massive form.

(2) In this section—

depleted uranium means uranium containing less than 0.72% of the radionuclide uranium-235.

92 Sealed radioactive substances used in teaching—Act, s 210 [s 75]

(1) This section applies to a sealed radioactive substance containing a radionuclide mentioned in column 1 of the following table if the activity of the radionuclide is not more than the activity mentioned in column 2 of the table opposite the radionuclide—

Table

Column 1 Radionuclide	Column 2 Activity (kBq)
cobalt-60	200
strontium-90	80
caesium-137	200
radium-226	20
americium-241	40

(2) For section 210 of the Act, the sealed radioactive substance is exempt from section 13 of the Act if it is being used for teaching students about the characteristics and properties of radiation or radiation sources.

93 Minerals—Act, s 210 [s 76]

(1) This section applies to a sample of a mineral that is a radioactive substance.

(2) For section 210 of the Act, the radioactive substance is exempt from section 12 of the Act if—

(a) it emits radiation at a level not more than 5 micrograys per hour, measured at a distance of 10cm from its surface; and

(b) it is being used—

(i) as a sample in teaching; or

(ii) for display as a geological specimen.

94 Abrasive blasting material containing radionuclides—Act, s 210 [s 77]

(1) This section applies to a radioactive substance that is abrasive blasting material if—

(a) the abrasive blasting material is being used in abrasive blasting; and

(b) the abrasive blasting material contains thorium or uranium radionuclides.

(2) For section 210 of the Act, the radioactive substance is exempt from section 12 of the Act if the amount worked out, using the formula, in relation to the material is not more than 1—

$$(\mathbf{0.1} \times \mathbf{U}) + (\mathbf{0.2} \times \mathbf{Th})$$

where—

Th means the total concentration, stated in Bq per gram, of any thorium radionuclides and their progeny contained in the material.

U means the total concentration, stated in Bq per gram, of any uranium radionuclides and their progeny contained in the material.

(3) Further, a radioactive substance that is, under subsection (2), exempt from section 12 of the Act is also exempt from section 26 of the Act if the gross alpha and gross beta concentrations in the leachate worked out under the TCLP are each equal to or less than the concentration stated in the Australian drinking water guidelines for the radionuclide multiplied by 10.

(4) In this section—

abrasive blasting material means material that could reasonably be used for abrasive blasting.

95 Persons administered radioactive substance as part of diagnostic or therapeutic procedure—Act, s 210 [s 79]

(1) This section applies if—

(a) a person has been administered a radioactive substance as part of a diagnostic or therapeutic procedure; and

(b) as a result of the procedure, the person's bodily waste is a radioactive substance.

(2) For section 210 of the Act, the bodily waste is exempt from section 26 of the Act only to the extent that it is disposed of by the person.

Note—

This section does not exempt another person from the requirements of section 26 of the Act for the disposal of the bodily waste.

96 Radionuclide krypton-85, incorporated in cold cathode gas discharge tube—Act, s 210 [s 80]

(1) For section 210 of the Act, a radioactive substance containing the radionuclide krypton-85, incorporated in a cold cathode gas discharge tube, is exempt from sections 12, 13 and 26 of the Act.

(2) To remove any doubt, it is declared that subsection (1) does not apply while the tube is being manufactured or repaired.

97 Thoriated products—Act, s 210

(1) For section 210 of the Act, a radioactive substance containing natural thorium is exempt from sections 12 and 26 of the Act if—

(a) the substance is incorporated in an alloy used in a component of an automotive or aircraft engine; or

(b) the substance is incorporated in a tungsten welding electrode and a warning statement is given to each person who is to use the electrode for welding.

Example of giving a person a warning statement—

giving the person the electrode in packaging clearly showing the warning statement

(2) In this section—

warning statement means a statement about—

(a) the radiation hazard arising from inhaling or ingesting filings from a tungsten welding electrode when preparing the electrode for arc welding; and

(b) the measures for preventing or minimising the radiation hazard.

98 Particular lasers—Act, s 210

(1) For section 210 of the Act, a radiation apparatus that is a laser, other than a laser apparatus, is exempt from sections 12, 13, 23, 24, 25, 27 and 27A of the Act if the labelling and information requirements for the laser are complied with.

(2) In this section—

labelling and information requirements, for a laser, means the requirements about labelling and information stated for the laser in clauses 6 and 7 of the laser standard.

Part 15 Fees

99 Fees—general [s 87]

The fees payable under the Act are stated in schedule 8.

100 Fees—Act, s 51[s 88]

(1) Subsection (2) applies to an application for a possession licence.

(2) For section 51(1)(c)(i) of the Act, the fee is the total of the following—

(a) an application fee;

(b) a licence fee consisting of—

(i) a base fee; and

(ii) a fee calculated having regard to—

(A) if the radiation source is a radioactive substance—the number of sealed radioactive substances, or types of unsealed radioactive

substances, that are the subject of the application; or

(B) if the radiation source is a radiation apparatus—a fee calculated having regard to the number of radiation apparatus that are the subject of the application.

(3) Subsection (4) applies to an application for a use licence or transport licence.

(4) For section 51(1)(c)(i) of the Act, the fee is the total of the following—

(a) an application fee;

(b) a licence fee.

(5) Subsection (6) applies to an application for an accreditation certificate.

(6) For section 51(1)(c)(i) of the Act, the fee is the total of the following—

(a) an application fee;

(b) an accreditation certificate fee.

(7) Subsection (8) applies to an application for a radiation safety officer certificate.

(8) For section 51(1)(c)(i) of the Act, the fee is the total of the following—

(a) an application fee;

(b) a radiation safety officer certificate fee.

101 Fees—Act, s 79 [s 89]

(1) Subsection (2) applies to an application for the renewal of a possession licence.

(2) For section 79(3)(b)(i) of the Act, the fee is a licence fee consisting of the following—

(a) a base fee;

(b) a fee calculated having regard to—

(i) if the radiation source is a radioactive substance—the number of sealed radioactive substances, or types of unsealed radioactive substances, that are the subject of the application; or

(ii) if the radiation source is a radiation apparatus—a fee calculated having regard to the number of radiation apparatus that are the subject of the application.

(3) Subsection (4) applies to an application for the renewal of a use or transport licence.

(4) For section 79(3)(b)(i) of the Act, the fee is a licence fee.

(5) Subsection (6) applies to an application for the renewal of an accreditation certificate.

(6) For section 79(3)(b)(i) of the Act, the fee is an accreditation certificate fee.

(7) Subsection (8) applies to an application for a continuing approval to acquire.

(8) For section 79(3)(b)(i) of the Act, the fee is a continuing approval to acquire fee.

(9) Subsection (10) applies to an application for the renewal of a radiation safety officer certificate.

(10) For section 79(3)(b)(i) of the Act, the fee is a radiation safety officer certificate fee.

102 Who pays fee for security check or criminal history check—Act, s 103A [s 90]

For section 103A(3) of the Act, the following person must pay the prescribed fee—

(a) for a check for an individual applicant for a licence—the applicant;

(b) for a check for the nominated person for a corporation that is an applicant for a licence—the corporation;

(c) for a check for a person who is to have access to a security enhanced source under the approved security plan for the source—the possession licensee requesting the check;

(d) for a check for a person who is to have access to a security enhanced source under the approved transport security plan for the transport of the source—the transport security plan holder requesting the check.

103 Waiver of fees—general [s 91]

(1) Subsection (2) applies if a person—

(a) is required to use a radiation source during the person's study or training at an educational institution; and

(b) under the Act, the person needs a use licence allowing the use of the source.

(2) The application fee and licence fee, payable under this regulation, for the licence are not payable by the person.

(3) Subsection (4) applies to a use licensee who, under the licence, is allowed to use a radiation source to carry out a diagnostic or therapeutic procedure involving the irradiation of a person.

(4) If the licensee applies for another use licence to carry out a diagnostic or therapeutic procedure involving the irradiation of a person, the application fee, payable under this regulation, for the licence is not payable by the licensee.

(5) The following fees are not payable by the State—

(a) the fees stated in schedule 8, parts 1 and 4;

(b) the fee for approval to acquire;

(c) the fee for approval to dispose;

(d) the fee for approval to relocate.

104 Waiver of fees—provisional registrants [s 92]

(1) This section applies to a provisional registrant who applies for a use licence to carry out a diagnostic or therapeutic procedure involving the irradiation of a person.

(2) The application fee payable under this regulation for the licence is not payable by the provisional registrant.

(3) In this section—

accrediting body means the Accreditation Committee of the Medical Radiation Practice Board of Australia.

provisional registrant means a person who—

(a) is a graduate from a medical radiation degree course accredited by the accrediting body, regardless of the title of the course; and

(b) is provisionally registered with the Medical Radiation Practice Board of Australia.

105 Refund of fees [s 94]

(1) The chief executive must as soon as practicable refund the fees, other than the application fee, paid on an application for the grant or renewal of an accreditation certificate, licence or radiation safety officer certificate if—

(a) the chief executive refuses to grant the application; or

(b) the applicant withdraws the application before it is decided.

(2) The chief executive must not refund a fee for any of the following applications—

(a) an application by a possession licensee to change the licensee's approved radiation safety and protection plan for a radiation practice;

(b) an application by a possession licensee to change the licensee's approved security plan;

(c) an application for approval of a transport security plan;

(d) an application by a transport security plan holder to change the holder's approved transport security plan;

(e) an application for approval to acquire;

(f) an application for approval to dispose;

(g) an application for approval to relocate;

(h) an application by the holder of a conditional Act instrument to change the conditions of the instrument imposed by the chief executive.

Part 16 Repeal and transitional provisions

106 Definition for part

In this part—

repealed regulation means the repealed *Radiation Safety Regulation 2010*.

107 Repeal [s 95]

The Radiation Safety Regulation 2010, SL No. 240 is repealed.

108 References to repealed regulation [s 96]

In a document, a reference to the repealed *Radiation Safety Regulation 1999* or the repealed regulation may, if the context permits, be taken to be a reference to this regulation.

109 Existing identification documents for application

(1) This section applies if—

(a) before the commencement, a person made a relevant application accompanied by documents under the repealed regulation, section 10; and

(b) immediately before the commencement the relevant application had not been decided.

(2) From the commencement, the relevant application may be decided as if the repealed regulation were still in force.

110 Existing use licence or transport licence continued

(1) This section applies if, immediately before the commencement, a person was taken to hold—

(a) a use licence under the repealed regulation, section 14A; or

(b) a transport licence under the repealed regulation, section 14B.

(2) From the commencement, the person is taken to hold the licence under this regulation that corresponds to the licence the person was taken to hold under the repealed regulation.

111 Conditions for certain Act instruments

(1) This section applies if, before the commencement, the holder of a possession licence or a use licence was subject to a condition that the holder of the licence comply with a code, protocol, standard or document under the repealed regulation, section 13 (a ***previous code***).

(2) From the commencement, a reference in a condition of a use licence or a possession licence to the previous code is taken to be a reference to the corresponding code under section 71 of this regulation.

(3) In this section—

corresponding code, in relation to a previous code, means the document dealing with the same or substantially similar subject matter as the previous code.

112 Particular solarium continues to be relevant solarium [s 99]

From the commencement, the repealed regulation, section 99 continues to apply as if this regulation had not been made.

113 Exemption from use licence for training

(1) This section applies to a person who, immediately before the commencement, was enrolled in either of the following training—

(a) training at an educational institution, other than training involving the actual irradiation by the trainee of a person as part of a diagnostic or therapeutic procedure;

(b) a course mentioned in the repealed regulation, schedule 7.

(2) The person is exempt from section 13 of the Act.

(3) This sections stops applying to the person on the day that is 6 months after the commencement.

Part 17 Amendment of this regulation

114 Regulation amended

This part amends this regulation.

115 Replacement of sch 8 (Fees)

Schedule 8—

omit, insert—

Schedule 8 Fees

sections 99, 100 and 101

Part 1 Possession licences

			$
1	Application fee for a possession licence for a radiation source—		
	(a)	if the radioactive substance is a security enhanced source	985.00
	(a)	otherwise	492.00
2	Licence fee for a possession licence for the possession of a radiation source—		
	(a)	if the term of the licence is 1 year or less—	
		(i) base fee	280.50
		(ii) for each radiation apparatus	84. 00
		(iii) for each sealed radioactive substance or type of unsealed radioactive substance	112.50
	(b)	if the term of the licence is more than 1 year but not more than 2 years—	
		(i) base fee	561.00
		(ii) for each radiation apparatus	168.00
		(iii) for each sealed radioactive substance or type of unsealed radioactive substance	225.00
	(c)	if the term of the licence is more than 2 years but not more than 3 years—	
		(i) base fee	841.50
		(ii) for each radiation apparatus	252.00
		(iii) for each sealed radioactive substance or type of unsealed radioactive substance	337.00

Part 2 Transport licences and use licences

		$
3	Application fee for a transport licence or use licence	98.00
4	Licence fee for a transport licence or use licence—	
	(a) if the term of the licence is 1 year or less	70.00
	(b) if the term of the licence is more than 1 year but not more than 2 years	140.00
	(c) if the term of the licence is more than 2 years but not more than 3 years	210.00

Part 3 Other Act instruments

		$
5	Application fee for an approval to acquire or a continuing approval to acquire	42.00
6	Application fee for an approval to dispose	492.00
7	Application fee for an approval to relocate	28.50
8	Application fee for an accreditation certificate	280.50
9	Accreditation certificate fee—	
	(a) if the term of the certificate is 1 year or less	140.50
	(b) if the term of the certificate is more than 1 year but not more than 2 years	280.50
	(c) if the term of the certificate is more than 2 years but not more than 3 years	421.00

		$
10	Application fee for a radiation safety officer certificate	98.00
11	Radiation safety officer certificate fee—	
	(a) if the term of the certificate is 1 year or less	70.00
	(b) if the term of the certificate is more than 1 year but not more than 2 years	140.00
	(c) if the term of the certificate is more than 2 years but not more than 3 years	210.00

Part 4 Other fees

		$
12	Application by a possession licensee to change the licensee's approved radiation safety and protection plan for a radiation practice (Act, s 31(2)(b))	492.00
13	Application by a possession licensee to change the licensee's approved security plan (Act, s 34D(2)(b))	492.00
14	Application for approval of a transport security plan (Act, s 34J(1)(c)(iii))	492.00
15	Application by a transport security plan holder to change the holder's approved transport security plan (Act, s 34O(2)(b))	492.00
16	Application by the holder of a conditional Act instrument to change the conditions of the instrument imposed by the chief executive (Act, s 96(2)(b))	492.00
17	Issue of an Act instrument to replace a lost, stolen, destroyed or damaged Act instrument (Act, s 101(4))	28.50
18	Security check and criminal history check (Act, s 103A(3))	116.50

		$
19	Copy of the register, or a part of it, for each page (Act, s 208(c))	1.00

Schedule 1 Radionuclide concentrations and activities

sections 4, 11 and 12

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
1	Actinium-225	$1 \times 10^{+1}$	$1 \times 10^{+4}$
2	Actinium-227	1×10^{-1}	$1 \times 10^{+3}$
3	Actinium-228	$1 \times 10^{+1}$	$1 \times 10^{+6}$
4	Americium-241	1×10^{0}	$1 \times 10^{+4}$
5	Americium-242	$1 \times 10^{+3}$	$1 \times 10^{+6}$
6	Americium-242m[1]	1×10^{0}	$1 \times 10^{+4}$
7	Americium-243[1]	1×10^{0}	$1 \times 10^{+3}$
8	Antimony-122	$1 \times 10^{+2}$	$1 \times 10^{+4}$
9	Antimony-124	$1 \times 10^{+1}$	$1 \times 10^{+6}$
10	Antimony-125	$1 \times 10^{+2}$	$1 \times 10^{+6}$
11	Argon-37	$1 \times 10^{+6}$	$1 \times 10^{+8}$
12	Argon-41	$1 \times 10^{+2}$	$1 \times 10^{+9}$
13	Arsenic-73	$1 \times 10^{+3}$	$1 \times 10^{+7}$
14	Arsenic-74	$1 \times 10^{+1}$	$1 \times 10^{+6}$
15	Arsenic-76	$1 \times 10^{+2}$	$1 \times 10^{+5}$
16	Arsenic-77	$1 \times 10^{+3}$	$1 \times 10^{+6}$
17	Astatine-211	$1 \times 10^{+3}$	$1 \times 10^{+7}$
18	Barium-131	$1 \times 10^{+2}$	$1 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
19	Barium-133	$1 \times 10^{+2}$	$1 \times 10^{+6}$
20	Barium-140[1]	$1 \times 10^{+1}$	$1 \times 10^{+5}$
21	Berkelium-249	$1 \times 10^{+3}$	$1 \times 10^{+6}$
22	Beryllium-7	$1 \times 10^{+3}$	$1 \times 10^{+7}$
23	Bismuth-206	$1 \times 10^{+1}$	$1 \times 10^{+5}$
24	Bismuth-207	$1 \times 10^{+1}$	$1 \times 10^{+6}$
25	Bismuth-210	$1 \times 10^{+3}$	$1 \times 10^{+6}$
26	Bismuth-212[1]	$1 \times 10^{+1}$	$1 \times 10^{+5}$
27	Bismuth-213	$1 \times 10^{+2}$	$1 \times 10^{+6}$
28	Bromine-75	$1 \times 10^{+1}$	$1 \times 10^{+6}$
29	Bromine-76	$1 \times 10^{+1}$	$1 \times 10^{+5}$
30	Bromine-82	$1 \times 10^{+1}$	$1 \times 10^{+6}$
31	Cadmium-109	$1 \times 10^{+4}$	$1 \times 10^{+6}$
32	Cadmium-115	$1 \times 10^{+2}$	$1 \times 10^{+6}$
33	Cadmium-115m	$1 \times 10^{+3}$	$1 \times 10^{+6}$
34	Caesium-129	$1 \times 10^{+2}$	$1 \times 10^{+5}$
35	Caesium-131	$1 \times 10^{+3}$	$1 \times 10^{+6}$
36	Caesium-132	$1 \times 10^{+1}$	$1 \times 10^{+5}$
37	Caesium-134	$1 \times 10^{+1}$	$1 \times 10^{+4}$
38	Caesium-134m	$1 \times 10^{+3}$	$1 \times 10^{+5}$
39	Caesium-135	$1 \times 10^{+4}$	$1 \times 10^{+7}$
40	Caesium-136	$1 \times 10^{+1}$	$1 \times 10^{+5}$
41	Caesium-137[1]	$1 \times 10^{+1}$	$1 \times 10^{+4}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
42	Caesium-138	$1 \times 10^{+1}$	$1 \times 10^{+4}$
43	Calcium-45	$1 \times 10^{+4}$	$1 \times 10^{+7}$
44	Calcium-47	$1 \times 10^{+1}$	$1 \times 10^{+6}$
45	Californium-246	$1 \times 10^{+3}$	$1 \times 10^{+6}$
46	Californium-248	$1 \times 10^{+1}$	$1 \times 10^{+4}$
47	Californium-249	1×10^{0}	$1 \times 10^{+3}$
48	Californium-250	$1 \times 10^{+1}$	$1 \times 10^{+4}$
49	Californium-251	1×10^{0}	$1 \times 10^{+3}$
50	Californium-252	$1 \times 10^{+1}$	$1 \times 10^{+4}$
51	Californium-253	$1 \times 10^{+2}$	$1 \times 10^{+5}$
52	Californium-254	1×10^{0}	$1 \times 10^{+3}$
53	Carbon-11	$1 \times 10^{+1}$	$1 \times 10^{+6}$
54	Carbon-14	$1 \times 10^{+4}$	$1 \times 10^{+7}$
55	Cerium-139	$1 \times 10^{+2}$	$1 \times 10^{+6}$
56	Cerium-141	$1 \times 10^{+2}$	$1 \times 10^{+7}$
57	Cerium-143	$1 \times 10^{+2}$	$1 \times 10^{+6}$
58	Cerium-144[1]	$1 \times 10^{+2}$	$1 \times 10^{+5}$
59	Chlorine-36	$1 \times 10^{+4}$	$1 \times 10^{+6}$
60	Chlorine-38	$1 \times 10^{+1}$	$1 \times 10^{+5}$
61	Chromium-51	$1 \times 10^{+3}$	$1 \times 10^{+7}$
62	Cobalt-55	$1 \times 10^{+1}$	$1 \times 10^{+6}$
63	Cobalt-56	$1 \times 10^{+1}$	$1 \times 10^{+5}$
64	Cobalt-57	$1 \times 10^{+2}$	$1 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
65	Cobalt-58	$1 \times 10^{+1}$	$1 \times 10^{+6}$
66	Cobalt-58m	$1 \times 10^{+4}$	$1 \times 10^{+7}$
67	Cobalt-60	$1 \times 10^{+1}$	$1 \times 10^{+5}$
68	Cobalt-60m	$1 \times 10^{+3}$	$1 \times 10^{+6}$
69	Cobalt-61	$1 \times 10^{+2}$	$1 \times 10^{+6}$
70	Cobalt-62m	$1 \times 10^{+1}$	$1 \times 10^{+5}$
71	Copper-64	$1 \times 10^{+2}$	$1 \times 10^{+6}$
72	Copper-67	$1 \times 10^{+2}$	$1 \times 10^{+6}$
73	Curium-242	$1 \times 10^{+2}$	$1 \times 10^{+5}$
74	Curium-243	1×10^{0}	$1 \times 10^{+4}$
75	Curium-244	$1 \times 10^{+1}$	$1 \times 10^{+4}$
76	Curium-245	1×10^{0}	$1 \times 10^{+3}$
77	Curium-246	1×10^{0}	$1 \times 10^{+3}$
78	Curium-247	1×10^{0}	$1 \times 10^{+4}$
79	Curium-248	1×10^{0}	$1 \times 10^{+3}$
80	Dysprosium-165	$1 \times 10^{+3}$	$1 \times 10^{+6}$
81	Dysprosium-166	$1 \times 10^{+3}$	$1 \times 10^{+6}$
82	Einsteinium-253	$1 \times 10^{+2}$	$1 \times 10^{+5}$
83	Einsteinium-254	$1 \times 10^{+1}$	$1 \times 10^{+4}$
84	Einsteinium-254m	$1 \times 10^{+2}$	$1 \times 10^{+6}$
85	Erbium-161	$1 \times 10^{+1}$	$1 \times 10^{+6}$
86	Erbium-169	$1 \times 10^{+4}$	$1 \times 10^{+7}$
87	Erbium-171	$1 \times 10^{+2}$	$1 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
88	Europium-152	$1 \times 10^{+1}$	$1 \times 10^{+6}$
89	Europium-152m	$1 \times 10^{+2}$	$1 \times 10^{+6}$
90	Europium-154	$1 \times 10^{+1}$	$1 \times 10^{+6}$
91	Europium-155	$1 \times 10^{+2}$	$1 \times 10^{+7}$
92	Fermium-254	$1 \times 10^{+4}$	$1 \times 10^{+7}$
93	Fermium-255	$1 \times 10^{+3}$	$1 \times 10^{+6}$
94	Fluorine-18	$1 \times 10^{+1}$	$1 \times 10^{+6}$
95	Gadolinium-153	$1 \times 10^{+2}$	$1 \times 10^{+7}$
96	Gadolinium-159	$1 \times 10^{+3}$	$1 \times 10^{+6}$
97	Gallium-67	$1 \times 10^{+2}$	$1 \times 10^{+6}$
98	Gallium-68	$1 \times 10^{+1}$	$1 \times 10^{+5}$
99	Gallium-72	$1 \times 10^{+1}$	$1 \times 10^{+5}$
100	Germanium-68	$1 \times 10^{+1}$	$1 \times 10^{+5}$
101	Germanium-71	$1 \times 10^{+4}$	$1 \times 10^{+8}$
102	Gold-198	$1 \times 10^{+2}$	$1 \times 10^{+6}$
103	Gold-199	$1 \times 10^{+2}$	$1 \times 10^{+6}$
104	Hafnium-181	$1 \times 10^{+1}$	$1 \times 10^{+6}$
105	Holmium-166	$1 \times 10^{+3}$	$1 \times 10^{+5}$
106	Holmium-166m	$1 \times 10^{+1}$	$1 \times 10^{+6}$
107	Hydrogen-3	$1 \times 10^{+6}$	$1 \times 10^{+9}$
108	Indium-111	$1 \times 10^{+2}$	$1 \times 10^{+6}$
109	Indium-113m	$1 \times 10^{+2}$	$1 \times 10^{+6}$
110	Indium-114m	$1 \times 10^{+2}$	$1 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
111	Indium-115m	$1 \times 10^{+2}$	$1 \times 10^{+6}$
112	Iodine-123	$1 \times 10^{+2}$	$1 \times 10^{+7}$
113	Iodine-124	$1 \times 10^{+1}$	$1 \times 10^{+6}$
114	Iodine-125	$1 \times 10^{+3}$	$1 \times 10^{+6}$
115	Iodine-126	$1 \times 10^{+2}$	$1 \times 10^{+6}$
116	Iodine-129	$1 \times 10^{+2}$	$1 \times 10^{+5}$
117	Iodine-130	$1 \times 10^{+1}$	$1 \times 10^{+6}$
118	Iodine-131	$1 \times 10^{+2}$	$1 \times 10^{+6}$
119	Iodine-132	$1 \times 10^{+1}$	$1 \times 10^{+5}$
120	Iodine-133	$1 \times 10^{+1}$	$1 \times 10^{+6}$
121	Iodine-134	$1 \times 10^{+1}$	$1 \times 10^{+5}$
122	Iodine-135	$1 \times 10^{+1}$	$1 \times 10^{+6}$
123	Iridium-190	$1 \times 10^{+1}$	$1 \times 10^{+6}$
124	Iridium-192	$1 \times 10^{+1}$	$1 \times 10^{+4}$
125	Iridium-194	$1 \times 10^{+2}$	$1 \times 10^{+5}$
126	Iron-52	$1 \times 10^{+1}$	$1 \times 10^{+6}$
127	Iron-55	$1 \times 10^{+4}$	$1 \times 10^{+6}$
128	Iron-59	$1 \times 10^{+1}$	$1 \times 10^{+6}$
129	Krypton-74	$1 \times 10^{+2}$	$1 \times 10^{+9}$
130	Krypton-76	$1 \times 10^{+2}$	$1 \times 10^{+9}$
131	Krypton-77	$1 \times 10^{+2}$	$1 \times 10^{+9}$
132	Krypton-79	$1 \times 10^{+3}$	$1 \times 10^{+5}$
133	Krypton-81	$1 \times 10^{+4}$	$1 \times 10^{+7}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
134	Krypton-83m	$1 \times 10^{+5}$	$1 \times 10^{+12}$
135	Krypton-85	$1 \times 10^{+5}$	$1 \times 10^{+4}$
136	Krypton-85m	$1 \times 10^{+3}$	$1 \times 10^{+10}$
137	Krypton-87	$1 \times 10^{+2}$	$1 \times 10^{+9}$
138	Krypton-88	$1 \times 10^{+2}$	$1 \times 10^{+9}$
139	Lanthanum-140	$1 \times 10^{+1}$	$1 \times 10^{+5}$
140	Lead-203	$1 \times 10^{+2}$	$1 \times 10^{+6}$
141	Lead-210[1]	$1 \times 10^{+1}$	$1 \times 10^{+4}$
142	Lead-212[1]	$1 \times 10^{+1}$	$1 \times 10^{+5}$
143	Lutetium-177	$1 \times 10^{+3}$	$1 \times 10^{+7}$
144	Magnesium-28	$1 \times 10^{+1}$	$1 \times 10^{+5}$
145	Manganese-51	$1 \times 10^{+1}$	$1 \times 10^{+5}$
146	Manganese-52	$1 \times 10^{+1}$	$1 \times 10^{+5}$
147	Manganese-52m	$1 \times 10^{+1}$	$1 \times 10^{+5}$
148	Manganese-53	$1 \times 10^{+4}$	$1 \times 10^{+9}$
149	Manganese-54	$1 \times 10^{+1}$	$1 \times 10^{+6}$
150	Manganese-56	$1 \times 10^{+1}$	$1 \times 10^{+5}$
151	Mercury-195m	$1 \times 10^{+2}$	$1 \times 10^{+6}$
152	Mercury-197	$1 \times 10^{+2}$	$1 \times 10^{+7}$
153	Mercury-197m	$1 \times 10^{+2}$	$1 \times 10^{+6}$
154	Mercury-203	$1 \times 10^{+2}$	$1 \times 10^{+5}$
155	Molybdenum-90	$1 \times 10^{+1}$	$1 \times 10^{+6}$
156	Molybdenum-93	$1 \times 10^{+3}$	$1 \times 10^{+8}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
157	Molybdenum-99	$1 \times 10^{+2}$	$1 \times 10^{+6}$
158	Molybdenum-101	$1 \times 10^{+1}$	$1 \times 10^{+6}$
159	Neodymium-147	$1 \times 10^{+2}$	$1 \times 10^{+6}$
160	Neodymium-149	$1 \times 10^{+2}$	$1 \times 10^{+6}$
161	Neptunium-237[1]	1×10^{0}	$1 \times 10^{+3}$
162	Neptunium-239	$1 \times 10^{+2}$	$1 \times 10^{+7}$
163	Neptunium-240	$1 \times 10^{+1}$	$1 \times 10^{+6}$
164	Nickel-59	$1 \times 10^{+4}$	$1 \times 10^{+8}$
165	Nickel-63	$1 \times 10^{+5}$	$1 \times 10^{+8}$
166	Nickel-65	$1 \times 10^{+1}$	$1 \times 10^{+6}$
167	Niobium-93m	$1 \times 10^{+4}$	$1 \times 10^{+7}$
168	Niobium-94	$1 \times 10^{+1}$	$1 \times 10^{+6}$
169	Niobium-95	$1 \times 10^{+1}$	$1 \times 10^{+6}$
170	Niobium-97	$1 \times 10^{+1}$	$1 \times 10^{+6}$
171	Niobium-98	$1 \times 10^{+1}$	$1 \times 10^{+5}$
172	Nitrogen-13	$1 \times 10^{+2}$	$1 \times 10^{+9}$
173	Osmium-185	$1 \times 10^{+1}$	$1 \times 10^{+6}$
174	Osmium-191	$1 \times 10^{+2}$	$1 \times 10^{+7}$
175	Osmium-191m	$1 \times 10^{+3}$	$1 \times 10^{+7}$
176	Osmium-193	$1 \times 10^{+2}$	$1 \times 10^{+6}$
177	Oxygen-15	$1 \times 10^{+2}$	$1 \times 10^{+9}$
178	Palladium-103	$1 \times 10^{+3}$	$1 \times 10^{+8}$
179	Palladium-109	$1 \times 10^{+3}$	$1 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
180	Phosphorus-32	$1 \times 10^{+3}$	$1 \times 10^{+5}$
181	Phosphorus-33	$1 \times 10^{+5}$	$1 \times 10^{+8}$
182	Platinum-191	$1 \times 10^{+2}$	$1 \times 10^{+6}$
183	Platinum-193m	$1 \times 10^{+3}$	$1 \times 10^{+7}$
184	Platinum-197	$1 \times 10^{+3}$	$1 \times 10^{+6}$
185	Platinum-197m	$1 \times 10^{+2}$	$1 \times 10^{+6}$
186	Plutonium-234	$1 \times 10^{+2}$	$1 \times 10^{+7}$
187	Plutonium-235	$1 \times 10^{+2}$	$1 \times 10^{+7}$
188	Plutonium-236	$1 \times 10^{+1}$	$1 \times 10^{+4}$
189	Plutonium-237	$1 \times 10^{+3}$	$1 \times 10^{+7}$
190	Plutonium-238	1×10^{0}	$1 \times 10^{+4}$
191	Plutonium-239	1×10^{0}	$1 \times 10^{+4}$
192	Plutonium-240	1×10^{0}	$1 \times 10^{+3}$
193	Plutonium-241	$1 \times 10^{+2}$	$1 \times 10^{+5}$
194	Plutonium-242	1×10^{0}	$1 \times 10^{+4}$
195	Plutonium-243	$1 \times 10^{+3}$	$1 \times 10^{+7}$
196	Plutonium-244	1×10^{0}	$1 \times 10^{+4}$
197	Polonium-203	$1 \times 10^{+1}$	$1 \times 10^{+6}$
198	Polonium-205	$1 \times 10^{+1}$	$1 \times 10^{+6}$
199	Polonium-207	$1 \times 10^{+1}$	$1 \times 10^{+6}$
200	Polonium-210	$1 \times 10^{+1}$	$1 \times 10^{+4}$
201	Potassium-40	$1 \times 10^{+2}$	$1 \times 10^{+6}$
202	Potassium-42	$1 \times 10^{+2}$	$1 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
203	Potassium-43	$1 \times 10^{+1}$	$1 \times 10^{+6}$
204	Praseodymium-142	$1 \times 10^{+2}$	$1 \times 10^{+5}$
205	Praseodymium-143	$1 \times 10^{+4}$	$1 \times 10^{+6}$
206	Promethium-147	$1 \times 10^{+4}$	$1 \times 10^{+7}$
207	Promethium-149	$1 \times 10^{+3}$	$1 \times 10^{+6}$
208	Protactinium-230	$1 \times 10^{+1}$	$1 \times 10^{+6}$
209	Protactinium-231	1×10^{0}	$1 \times 10^{+3}$
210	Protactinium-233	$1 \times 10^{+2}$	$1 \times 10^{+7}$
211	Radium-223[1]	$1 \times 10^{+2}$	$1 \times 10^{+5}$
212	Radium-224[1]	$1 \times 10^{+1}$	$1 \times 10^{+5}$
213	Radium-225	$1 \times 10^{+2}$	$1 \times 10^{+5}$
214	Radium-226[1]	$1 \times 10^{+1}$	$1 \times 10^{+4}$
215	Radium-227	$1 \times 10^{+2}$	$1 \times 10^{+6}$
216	Radium-228[1]	$1 \times 10^{+1}$	$1 \times 10^{+5}$
217	Radon-220[1]	$1 \times 10^{+4}$	$1 \times 10^{+7}$
218	Radon-222[1]	$1 \times 10^{+1}$	$1 \times 10^{+8}$
219	Rhenium-186	$1 \times 10^{+3}$	$1 \times 10^{+6}$
220	Rhenium-188	$1 \times 10^{+2}$	$1 \times 10^{+5}$
221	Rhodium-103m	$1 \times 10^{+4}$	$1 \times 10^{+8}$
222	Rhodium-105	$1 \times 10^{+2}$	$1 \times 10^{+7}$
223	Rubidium-81	$1 \times 10^{+1}$	$1 \times 10^{+6}$
224	Rubidium-86	$1 \times 10^{+2}$	$1 \times 10^{+5}$
225	Ruthenium-97	$1 \times 10^{+2}$	$1 \times 10^{+7}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
226	Ruthenium-103	$1 \times 10^{+2}$	$1 \times 10^{+6}$
227	Ruthenium-105	$1 \times 10^{+1}$	$1 \times 10^{+6}$
228	Ruthenium-106[1]	$1 \times 10^{+2}$	$1 \times 10^{+5}$
229	Samarium-147	$1 \times 10^{+1}$	$1 \times 10^{+4}$
230	Samarium-151	$1 \times 10^{+4}$	$1 \times 10^{+8}$
231	Samarium-153	$1 \times 10^{+2}$	$1 \times 10^{+6}$
232	Scandium-44	$1 \times 10^{+1}$	$1 \times 10^{+4}$
233	Scandium-46	$1 \times 10^{+1}$	$1 \times 10^{+6}$
234	Scandium-47	$1 \times 10^{+2}$	$1 \times 10^{+6}$
235	Scandium-48	$1 \times 10^{+1}$	$1 \times 10^{+5}$
236	Selenium-72	$1 \times 10^{+1}$	$1 \times 10^{+4}$
237	Selenium-73	$1 \times 10^{+1}$	$1 \times 10^{+6}$
238	Selenium-75	$1 \times 10^{+2}$	$1 \times 10^{+6}$
239	Silicon-31	$1 \times 10^{+3}$	$1 \times 10^{+6}$
240	Silicon-32	$1 \times 10^{+1}$	$1 \times 10^{+4}$
241	Silver-105	$1 \times 10^{+2}$	$1 \times 10^{+6}$
242	Silver-108m	$1 \times 10^{+1}$	$1 \times 10^{+6}$
243	Silver-110m	$1 \times 10^{+1}$	$1 \times 10^{+6}$
244	Silver-111	$1 \times 10^{+3}$	$1 \times 10^{+6}$
245	Sodium-22	$1 \times 10^{+1}$	$1 \times 10^{+6}$
246	Sodium-24	$1 \times 10^{+1}$	$1 \times 10^{+5}$
247	Strontium-82	$1 \times 10^{+1}$	$1 \times 10^{+4}$
248	Strontium-85	$1 \times 10^{+2}$	$1 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
249	Strontium-85m	$1 \times 10^{+2}$	$1 \times 10^{+7}$
250	Strontium-87m	$1 \times 10^{+2}$	$1 \times 10^{+6}$
251	Strontium-89	$1 \times 10^{+3}$	$1 \times 10^{+6}$
252	Strontium-90[l]	$1 \times 10^{+2}$	$1 \times 10^{+4}$
253	Strontium-91	$1 \times 10^{+1}$	$1 \times 10^{+5}$
254	Strontium-92	$1 \times 10^{+1}$	$1 \times 10^{+6}$
255	Sulphur-35	$1 \times 10^{+5}$	$1 \times 10^{+8}$
256	Tantalum-182	$1 \times 10^{+1}$	$1 \times 10^{+4}$
257	Technetium-95m	$1 \times 10^{+1}$	$1 \times 10^{+6}$
258	Technetium-96	$1 \times 10^{+1}$	$1 \times 10^{+6}$
259	Technetium-96m	$1 \times 10^{+3}$	$1 \times 10^{+7}$
260	Technetium-97	$1 \times 10^{+3}$	$1 \times 10^{+8}$
261	Technetium-97m	$1 \times 10^{+3}$	$1 \times 10^{+7}$
262	Technetium-99	$1 \times 10^{+4}$	$1 \times 10^{+7}$
263	Technetium-99m	$1 \times 10^{+2}$	$1 \times 10^{+7}$
264	Tellurium-123m	$1 \times 10^{+2}$	$1 \times 10^{+7}$
265	Tellurium-125m	$1 \times 10^{+3}$	$1 \times 10^{+7}$
266	Tellurium-127	$1 \times 10^{+3}$	$1 \times 10^{+6}$
267	Tellurium-127m	$1 \times 10^{+3}$	$1 \times 10^{+7}$
268	Tellurium-129	$1 \times 10^{+2}$	$1 \times 10^{+6}$
269	Tellurium-129m	$1 \times 10^{+3}$	$1 \times 10^{+6}$
270	Tellurium-131	$1 \times 10^{+2}$	$1 \times 10^{+5}$
271	Tellurium-131m	$1 \times 10^{+1}$	$1 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
272	Tellurium-132	$1 \times 10^{+2}$	$1 \times 10^{+7}$
273	Tellurium-133	$1 \times 10^{+1}$	$1 \times 10^{+5}$
274	Tellurium-133m	$1 \times 10^{+1}$	$1 \times 10^{+5}$
275	Tellurium-134	$1 \times 10^{+1}$	$1 \times 10^{+6}$
276	Terbium-160	$1 \times 10^{+1}$	$1 \times 10^{+6}$
277	Thallium-200	$1 \times 10^{+1}$	$1 \times 10^{+6}$
278	Thallium-201	$1 \times 10^{+2}$	$1 \times 10^{+6}$
279	Thallium-202	$1 \times 10^{+2}$	$1 \times 10^{+6}$
280	Thallium-204	$1 \times 10^{+4}$	$1 \times 10^{+4}$
281	Thorium-226[1]	$1 \times 10^{+3}$	$1 \times 10^{+7}$
282	Thorium-227	$1 \times 10^{+1}$	$1 \times 10^{+4}$
283	Thorium-228[1]	1×10^{0}	$1 \times 10^{+4}$
284	Thorium-229[1]	1×10^{0}	$1 \times 10^{+3}$
285	Thorium-230	1×10^{0}	$1 \times 10^{+4}$
286	Thorium-231	$1 \times 10^{+3}$	$1 \times 10^{+7}$
287	Thorium-232	1×10^{0}	$1 \times 10^{+3}$
288	Thorium-234[1]	$1 \times 10^{+3}$	$1 \times 10^{+5}$
289	Thorium-nat	1×10^{0}	$1 \times 10^{+3}$
290	Thulium-170	$1 \times 10^{+3}$	$1 \times 10^{+6}$
291	Thulium-171	$1 \times 10^{+4}$	$1 \times 10^{+8}$
292	Tin-113	$1 \times 10^{+3}$	$1 \times 10^{+7}$
293	Tin-117m	$1 \times 10^{+2}$	$1 \times 10^{+6}$
294	Tin-121	$1 \times 10^{+5}$	$1 \times 10^{+7}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
295	Tin-125	$1 \times 10^{+2}$	$1 \times 10^{+5}$
296	Tungsten-181	$1 \times 10^{+3}$	$1 \times 10^{+7}$
297	Tungsten-185	$1 \times 10^{+4}$	$1 \times 10^{+7}$
298	Tungsten-187	$1 \times 10^{+2}$	$1 \times 10^{+6}$
299	Tungsten-188	$1 \times 10^{+2}$	$1 \times 10^{+5}$
300	Uranium-230[1]	$1 \times 10^{+1}$	$1 \times 10^{+5}$
301	Uranium-231	$1 \times 10^{+2}$	$1 \times 10^{+7}$
302	Uranium-232[1]	1×10^{0}	$1 \times 10^{+3}$
303	Uranium-233	$1 \times 10^{+1}$	$1 \times 10^{+4}$
304	Uranium-234	$1 \times 10^{+1}$	$1 \times 10^{+4}$
305	Uranium-235[1]	$1 \times 10^{+1}$	$1 \times 10^{+4}$
306	Uranium-236	$1 \times 10^{+1}$	$1 \times 10^{+4}$
307	Uranium-237	$1 \times 10^{+2}$	$1 \times 10^{+6}$
308	Uranium-238[1]	$1 \times 10^{+1}$	$1 \times 10^{+4}$
309	Uranium-239	$1 \times 10^{+2}$	$1 \times 10^{+6}$
310	Uranium-240	$1 \times 10^{+3}$	$1 \times 10^{+7}$
311	Uranium-240[1]	$1 \times 10^{+1}$	$1 \times 10^{+6}$
312	Uranium-nat	1×10^{0}	$1 \times 10^{+3}$
313	Vanadium-48	$1 \times 10^{+1}$	$1 \times 10^{+5}$
314	Xenon-131m	$1 \times 10^{+4}$	$1 \times 10^{+4}$
315	Xenon-133	$1 \times 10^{+3}$	$1 \times 10^{+4}$
316	Xenon-135	$1 \times 10^{+3}$	$1 \times 10^{+10}$
317	Ytterbium-169	$1 \times 10^{+2}$	$1 \times 10^{+7}$

Item	Column 1 Radionuclide	Column 2 Concentration (Bq/g)	Column 3 Activity (Bq)
318	Ytterbium-175	$1 \times 10^{+3}$	$1 \times 10^{+7}$
319	Yttrium-88	$1 \times 10^{+1}$	$1 \times 10^{+6}$
320	Yttrium-90	$1 \times 10^{+3}$	$1 \times 10^{+5}$
321	Yttrium-91	$1 \times 10^{+3}$	$1 \times 10^{+6}$
322	Yttrium-91m	$1 \times 10^{+2}$	$1 \times 10^{+6}$
323	Yttrium-92	$1 \times 10^{+2}$	$1 \times 10^{+5}$
324	Yttrium-93	$1 \times 10^{+2}$	$1 \times 10^{+5}$
325	Zinc-65	$1 \times 10^{+1}$	$1 \times 10^{+6}$
326	Zinc-69	$1 \times 10^{+4}$	$1 \times 10^{+6}$
327	Zinc-69m	$1 \times 10^{+2}$	$1 \times 10^{+6}$
328	Zirconium-93[1]	$1 \times 10^{+3}$	$1 \times 10^{+7}$
329	Zirconium-95	$1 \times 10^{+1}$	$1 \times 10^{+6}$
330	Zirconium-97[1]	$1 \times 10^{+1}$	$1 \times 10^{+5}$
331	alpha-emitting radionuclide not mentioned in another item	1×10^{0}	$1 \times 10^{+3}$
332	radionuclide that is not alpha-emitting and not mentioned in another item	$1 \times 10^{+1}$	$1 \times 10^{+4}$

The superscript '1' immediately following an item in column 1 indicates that the item's concentration and activity are the concentration and activity of the parent radionuclide and its progeny when in secular equilibrium.

Schedule 2 Security categorisation of a radiation source or an aggregation of radiation sources

section 7

Part 1 Security categories

Security category	Activity ratio
1	Equal to or greater than 1,000
2	Less than 1,000 but greater than or equal to 10
3	Less than 10 but greater than or equal to 1
4	Less than 1 but greater than or equal to 0.01
5	Less than 0.01

Part 2 Radionuclide activity values

Item	Column 1 Radionuclide	Column 2 Radionuclide activity value (GBq)
1	Americium-241	60
2	Americium-241/Beryllium	60
3	Cadmium-109	2×10^4
4	Caesium-137	100
5	Californium-252	20

Item	Column 1 Radionuclide	Column 2 Radionuclide activity value (GBq)
6	Cobalt-57	700
7	Cobalt-60	30
8	Curium-244	50
9	Gadolinium-153	1×10^3
10	Germanium-68	700
11	Gold-198	200
12	Iodine-125	200
13	Iodine-131	200
14	Iridium-192	80
15	Iron-55	8×10^5
16	Krypton-85	3×10^4
17	Molybdenum-99	300
18	Nickel-63	6×10^4
19	Palladium-103	9×10^4
20	Phosphorus-32	1×10^4
21	Plutonium-238	60
22	Plutonium-239/Beryllium	60
23	Polonium-210	60
24	Promethium-147	4×10^4
25	Radium-226	40
26	Ruthenium-106 (Rhodium-106)	300
27	Selenium-75	200
28	Strontium-90 (Yttrium-90)	1×10^3

Item	Column 1 Radionuclide	Column 2 Radionuclide activity value (GBq)
29	Technetium-99m	700
30	Thallium-204	2×10^4
31	Thulium-170	2×10^4
32	Tritium (H-3)	2×10^6
33	Ytterbium-169	300
34	All other radioisotopes	20

Schedule 3 Disposal of radioactive material—radionuclide concentrations

sections 9 and 10

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
1	Actinium-225	3.77×10^{-3}	$2.85 \times 10^{+4}$	$5.71 \times 10^{+4}$
2	Actinium-227	4.73×10^{-5}	$6.23 \times 10^{+2}$	$1.25 \times 10^{+3}$
3	Actinium-228	1.03×10^{0}	$1.59 \times 10^{+6}$	$3.19 \times 10^{+6}$
4	Americium-241	7.64×10^{-4}	$3.42 \times 10^{+3}$	$6.85 \times 10^{+3}$
5	Americium-242	1.86×10^{0}	$2.28 \times 10^{+6}$	$4.57 \times 10^{+6}$
6	Americium-242m[1]	8.51×10^{-4}	$3.60 \times 10^{+3}$	$7.21 \times 10^{+3}$
7	Americium-243[1]	7.64×10^{-4}	$3.42 \times 10^{+3}$	$6.85 \times 10^{+3}$
8	Antimony-122	$2.48 \times 10^{+1}$	$4.03 \times 10^{+5}$	$8.06 \times 10^{+5}$
9	Antimony-124	4.88×10^{0}	$2.74 \times 10^{+5}$	$5.48 \times 10^{+5}$
10	Antimony-125	6.62×10^{0}	$6.23 \times 10^{+5}$	$1.25 \times 10^{+6}$
11	Argon-37	$3.34 \times 10^{+8}$	-	-
12	Argon-41	$2.58 \times 10^{+2}$	-	-
13	Arsenic-73	$3.20 \times 10^{+1}$	$2.63 \times 10^{+6}$	$5.27 \times 10^{+6}$
14	Arsenic-74	$1.42 \times 10^{+1}$	$5.27 \times 10^{+5}$	$1.05 \times 10^{+6}$
15	Arsenic-76	$3.24 \times 10^{+1}$	$4.28 \times 10^{+5}$	$8.56 \times 10^{+5}$
16	Arsenic-77	$7.09 \times 10^{+1}$	$1.71 \times 10^{+6}$	$3.42 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
17	Astatine-211	2.71×10^{-1}	$6.23 \times 10^{+4}$	$1.25 \times 10^{+5}$
18	Barium-131	$8.51 \times 10^{+1}$	$1.52 \times 10^{+6}$	$3.04 \times 10^{+6}$
19	Barium-133	$1.65 \times 10^{+1}$	$6.85 \times 10^{+5}$	$1.37 \times 10^{+6}$
20	Barium-140[1]	$1.86 \times 10^{+1}$	$2.74 \times 10^{+5}$	$5.48 \times 10^{+5}$
21	Berkelium-249	1.99×10^{-1}	$7.06 \times 10^{+5}$	$1.41 \times 10^{+6}$
22	Beryllium-7	$5.73 \times 10^{+2}$	$2.45 \times 10^{+7}$	$4.89 \times 10^{+7}$
23	Bismuth-206	$1.42 \times 10^{+1}$	$3.60 \times 10^{+5}$	$7.21 \times 10^{+5}$
24	Bismuth-207	5.73×10^{0}	$5.27 \times 10^{+5}$	$1.05 \times 10^{+6}$
25	Bismuth-210	3.55×10^{-1}	$5.27 \times 10^{+5}$	$1.05 \times 10^{+6}$
26	Bismuth-212[1]	7.64×10^{-1}	$2.63 \times 10^{+6}$	$5.27 \times 10^{+6}$
27	Bismuth-213	7.26×10^{-1}	$3.42 \times 10^{+6}$	$6.85 \times 10^{+6}$
28	Bromine-75	$3.50 \times 10^{+2}$	$8.67 \times 10^{+6}$	$1.73 \times 10^{+7}$
29	Bromine-76	$5.13 \times 10^{+1}$	$1.49 \times 10^{+6}$	$2.98 \times 10^{+6}$
30	Bromine-82	$3.38 \times 10^{+1}$	$1.27 \times 10^{+6}$	$2.54 \times 10^{+6}$
31	Cadmium-109	3.10×10^{0}	$3.42 \times 10^{+5}$	$6.85 \times 10^{+5}$
32	Cadmium-115	$2.29 \times 10^{+1}$	$4.89 \times 10^{+5}$	$9.78 \times 10^{+5}$
33	Cadmium-115m	4.08×10^{0}	$2.08 \times 10^{+5}$	$4.15 \times 10^{+5}$
34	Caesium-129	$3.68 \times 10^{+2}$	$1.14 \times 10^{+7}$	$2.28 \times 10^{+7}$
35	Caesium-131	$6.62 \times 10^{+2}$	$1.18 \times 10^{+7}$	$2.36 \times 10^{+7}$
36	Caesium-132	$7.84 \times 10^{+1}$	$1.37 \times 10^{+6}$	$2.74 \times 10^{+6}$
37	Caesium-134	3.10×10^{0}	$3.60 \times 10^{+4}$	$7.21 \times 10^{+4}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
38	Caesium-134m	$1.15 \times 10^{+3}$	$3.42 \times 10^{+7}$	$6.85 \times 10^{+7}$
39	Caesium-135	$3.01 \times 10^{+1}$	$3.42 \times 10^{+5}$	$6.85 \times 10^{+5}$
40	Caesium-136	$1.57 \times 10^{+1}$	$2.28 \times 10^{+5}$	$4.57 \times 10^{+5}$
41	Caesium-137[1]	4.44×10^{0}	$5.27 \times 10^{+4}$	$1.05 \times 10^{+5}$
42	Caesium-138	$6.47 \times 10^{+2}$	$7.44 \times 10^{+6}$	$1.49 \times 10^{+7}$
43	Calcium-45	$1.10 \times 10^{+1}$	$9.01 \times 10^{+5}$	$1.80 \times 10^{+6}$
44	Calcium-47	$1.42 \times 10^{+1}$	$4.28 \times 10^{+5}$	$8.56 \times 10^{+5}$
45	Californium-246	7.09×10^{-2}	$2.08 \times 10^{+5}$	$4.15 \times 10^{+5}$
46	Californium-248	3.63×10^{-3}	$2.45 \times 10^{+4}$	$4.89 \times 10^{+4}$
47	Californium-249	4.51×10^{-4}	$1.96 \times 10^{+3}$	$3.91 \times 10^{+3}$
48	Californium-250	9.31×10^{-4}	$4.28 \times 10^{+3}$	$8.56 \times 10^{+3}$
49	Californium-251	4.44×10^{-4}	$1.90 \times 10^{+3}$	$3.81 \times 10^{+3}$
50	Californium-252	1.65×10^{-3}	$7.61 \times 10^{+3}$	$1.52 \times 10^{+4}$
51	Californium-253	2.48×10^{-2}	$4.89 \times 10^{+5}$	$9.78 \times 10^{+5}$
52	Californium-254	8.05×10^{-4}	$1.71 \times 10^{+3}$	$3.42 \times 10^{+3}$
53	Carbon-11	$9.31 \times 10^{+3}$	$2.85 \times 10^{+7}$	$5.71 \times 10^{+7}$
54	Carbon-14	$5.13 \times 10^{+1}$	$1.18 \times 10^{+6}$	$2.36 \times 10^{+6}$
55	Cerium-139	$1.65 \times 10^{+1}$	$2.63 \times 10^{+6}$	$5.27 \times 10^{+6}$
56	Cerium-141	8.27×10^{0}	$9.65 \times 10^{+5}$	$1.93 \times 10^{+6}$
57	Cerium-143	$2.98 \times 10^{+1}$	$6.23 \times 10^{+5}$	$1.25 \times 10^{+6}$
58	Cerium-144[1]	6.08×10^{-1}	$1.32 \times 10^{+5}$	$2.63 \times 10^{+5}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
59	Chlorine-36	4.32×10^{0}	$7.36 \times 10^{+5}$	$1.47 \times 10^{+6}$
60	Chlorine-38	$4.08 \times 10^{+2}$	$5.71 \times 10^{+6}$	$1.14 \times 10^{+7}$
61	Chromium-51	$8.27 \times 10^{+2}$	$1.80 \times 10^{+7}$	$3.60 \times 10^{+7}$
62	Cobalt-55	$3.59 \times 10^{+1}$	$6.23 \times 10^{+5}$	$1.25 \times 10^{+6}$
63	Cobalt-56	4.73×10^{0}	$2.74 \times 10^{+5}$	$5.48 \times 10^{+5}$
64	Cobalt-57	$3.17 \times 10^{+1}$	$3.26 \times 10^{+6}$	$6.52 \times 10^{+6}$
65	Cobalt-58	$1.49 \times 10^{+1}$	$9.26 \times 10^{+5}$	$1.85 \times 10^{+6}$
66	Cobalt-58m	$1.75 \times 10^{+3}$	$2.85 \times 10^{+7}$	$5.71 \times 10^{+7}$
67	Cobalt-60	1.03×10^{0}	$2.01 \times 10^{+5}$	$4.03 \times 10^{+5}$
68	Cobalt-60m	$2.29 \times 10^{+4}$	$4.03 \times 10^{+8}$	$8.06 \times 10^{+8}$
69	Cobalt-61	$3.97 \times 10^{+2}$	$9.26 \times 10^{+6}$	$1.85 \times 10^{+7}$
70	Cobalt-62m	$8.05 \times 10^{+2}$	$1.46 \times 10^{+7}$	$2.91 \times 10^{+7}$
71	Copper-64	$1.99 \times 10^{+2}$	$5.71 \times 10^{+6}$	$1.14 \times 10^{+7}$
72	Copper-67	$5.13 \times 10^{+1}$	$2.01 \times 10^{+6}$	$4.03 \times 10^{+6}$
73	Curium-242	6.20×10^{-3}	$5.71 \times 10^{+4}$	$1.14 \times 10^{+5}$
74	Curium-243	1.03×10^{-3}	$4.57 \times 10^{+3}$	$9.13 \times 10^{+3}$
75	Curium-244	1.19×10^{-3}	$5.71 \times 10^{+3}$	$1.14 \times 10^{+4}$
76	Curium-245	7.44×10^{-4}	$3.26 \times 10^{+3}$	$6.52 \times 10^{+3}$
77	Curium-246	7.44×10^{-4}	$3.26 \times 10^{+3}$	$6.52 \times 10^{+3}$
78	Curium-247	8.27×10^{-4}	$3.60 \times 10^{+3}$	$7.21 \times 10^{+3}$
79	Curium-248	2.13×10^{-4}	$8.90 \times 10^{+2}$	$1.78 \times 10^{+3}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
80	Dysprosium-165	$3.42 \times 10^{+2}$	$6.23 \times 10^{+6}$	$1.25 \times 10^{+7}$
81	Dysprosium-166	$1.65 \times 10^{+1}$	$4.28 \times 10^{+5}$	$8.56 \times 10^{+5}$
82	Einsteinium-253	1.19×10^{-2}	$1.12 \times 10^{+5}$	$2.25 \times 10^{+5}$
83	Einsteinium-254	3.72×10^{-3}	$2.45 \times 10^{+4}$	$4.89 \times 10^{+4}$
84	Einsteinium-254m	6.77×10^{-2}	$1.63 \times 10^{+5}$	$3.26 \times 10^{+5}$
85	Erbium-161	$3.50 \times 10^{+2}$	$8.56 \times 10^{+6}$	$1.71 \times 10^{+7}$
86	Erbium-169	$3.04 \times 10^{+1}$	$1.85 \times 10^{+6}$	$3.70 \times 10^{+6}$
87	Erbium-171	$9.93 \times 10^{+1}$	$1.90 \times 10^{+6}$	$3.81 \times 10^{+6}$
88	Europium-152	7.64×10^{-1}	$4.89 \times 10^{+5}$	$9.78 \times 10^{+5}$
89	Europium-152m	$9.31 \times 10^{+1}$	$1.37 \times 10^{+6}$	$2.74 \times 10^{+6}$
90	Europium-154	5.96×10^{-1}	$3.42 \times 10^{+5}$	$6.85 \times 10^{+5}$
91	Europium-155	4.58×10^{0}	$2.14 \times 10^{+6}$	$4.28 \times 10^{+6}$
92	Fermium-254	3.87×10^{-1}	$1.56 \times 10^{+6}$	$3.11 \times 10^{+6}$
93	Fermium-255	1.15×10^{-1}	$2.74 \times 10^{+5}$	$5.48 \times 10^{+5}$
94	Fluorine-18	$3.20 \times 10^{+2}$	$1.4 \times 10^{+7}$	$2.8 \times 10^{+7}$
95	Gadolinium-153	$1.19 \times 10^{+1}$	$2.54 \times 10^{+6}$	$5.07 \times 10^{+6}$
96	Gadolinium-159	$7.64 \times 10^{+1}$	$1.40 \times 10^{+6}$	$2.80 \times 10^{+6}$
97	Gallium-67	$1.06 \times 10^{+2}$	$3.60 \times 10^{+6}$	$7.21 \times 10^{+6}$
98	Gallium-68	$3.68 \times 10^{+2}$	$6.86 \times 10^{+6}$	$1.37 \times 10^{+7}$
99	Gallium-72	$3.55 \times 10^{+1}$	$6.23 \times 10^{+5}$	$1.25 \times 10^{+6}$
100	Germanium-68	2.29×10^{0}	$5.27 \times 10^{+5}$	$1.05 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
101	Germanium-71	$2.71 \times 10^{+3}$	$5.71 \times 10^{+7}$	$1.14 \times 10^{+8}$
102	Gold-198	$2.71 \times 10^{+1}$	$6.85 \times 10^{+5}$	$1.37 \times 10^{+6}$
103	Gold-199	$3.92 \times 10^{+1}$	$1.56 \times 10^{+6}$	$3.11 \times 10^{+6}$
104	Hafnium-181	6.34×10^{0}	$6.23 \times 10^{+5}$	$1.25 \times 10^{+6}$
105	Holmium-166	$3.59 \times 10^{+1}$	$4.89 \times 10^{+5}$	$9.78 \times 10^{+5}$
106	Holmium-166m	2.71×10^{-1}	$3.42 \times 10^{+5}$	$6.84 \times 10^{+5}$
107	Hydrogen-3	$1.65 \times 10^{+7}$	$3.81 \times 10^{+7}$	$7.61 \times 10^{+7}$
108	Indium-111	$9.61 \times 10^{+1}$	$2.36 \times 10^{+6}$	$4.72 \times 10^{+6}$
109	Indium-113m	$9.31 \times 10^{+2}$	$2.45 \times 10^{+7}$	$4.89 \times 10^{+7}$
110	Indium-114m	2.71×10^{0}	$1.67 \times 10^{+5}$	$3.34 \times 10^{+5}$
111	Indium-115m	$3.42 \times 10^{+2}$	$7.96 \times 10^{+6}$	$1.59 \times 10^{+7}$
112	Iodine-123	$2.71 \times 10^{+2}$	$3.26 \times 10^{+6}$	$6.52 \times 10^{+6}$
113	Iodine-124	4.73×10^{0}	$5.27 \times 10^{+4}$	$1.05 \times 10^{+5}$
114	Iodine-125	4.08×10^{0}	$4.57 \times 10^{+4}$	$9.13 \times 10^{+4}$
115	Iodine-126	2.13×10^{0}	$2.36 \times 10^{+4}$	$4.72 \times 10^{+4}$
116	Iodine-129	5.84×10^{-1}	$6.23 \times 10^{+3}$	$1.25 \times 10^{+4}$
117	Iodine-130	$3.10 \times 10^{+1}$	$3.42 \times 10^{+5}$	$6.85 \times 10^{+5}$
118	Iodine-131	2.71×10^{0}	$3.11 \times 10^{+4}$	$6.23 \times 10^{+4}$
119	Iodine-132	$1.49 \times 10^{+2}$	$2.36 \times 10^{+6}$	$4.72 \times 10^{+6}$
120	Iodine-133	$1.42 \times 10^{+1}$	$1.59 \times 10^{+5}$	$3.19 \times 10^{+5}$
121	Iodine-134	$3.77 \times 10^{+2}$	$6.23 \times 10^{+6}$	$1.25 \times 10^{+7}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
122	Iodine-135	$6.47 \times 10^{+1}$	$7.36 \times 10^{+5}$	$1.47 \times 10^{+6}$
123	Iridium-190	$1.19 \times 10^{+1}$	$5.71 \times 10^{+5}$	$1.14 \times 10^{+6}$
124	Iridium-192	4.80×10^{0}	$4.89 \times 10^{+5}$	$9.78 \times 10^{+5}$
125	Iridium-194	$3.97 \times 10^{+1}$	$5.27 \times 10^{+5}$	$1.05 \times 10^{+6}$
126	Iron-52	$3.13 \times 10^{+1}$	$4.89 \times 10^{+5}$	$9.78 \times 10^{+5}$
127	Iron-55	$3.24 \times 10^{+1}$	$2.08 \times 10^{+6}$	$4.15 \times 10^{+6}$
128	Iron-59	8.51×10^{0}	$3.81 \times 10^{+5}$	$7.61 \times 10^{+5}$
129	Krypton-74	-	-	-
130	Krypton-76	$8.56 \times 10^{+2}$	-	-
131	Krypton-77	$3.51 \times 10^{+2}$	-	-
132	Krypton-79	$1.41 \times 10^{+3}$	-	-
133	Krypton-81	$6.52 \times 10^{+4}$	-	-
134	Krypton-83m	$6.52 \times 10^{+6}$	-	-
135	Krypton-85	$6.23 \times 10^{+4}$	-	-
136	Krypton-85m	$2.32 \times 10^{+3}$	-	-
137	Krypton-87	$4.03 \times 10^{+2}$	-	-
138	Krypton-88	$1.63 \times 10^{+2}$	-	-
139	Lanthanum-140	$1.99 \times 10^{+1}$	$3.42 \times 10^{+5}$	$6.85 \times 10^{+5}$
140	Lead-203	$1.86 \times 10^{+2}$	$2.85 \times 10^{+6}$	$5.71 \times 10^{+6}$
141	Lead-210[1]	2.71×10^{-2}	$1.01 \times 10^{+3}$	$2.01 \times 10^{+3}$
142	Lead-212[1]	9.02×10^{-1}	$1.16 \times 10^{+5}$	$2.32 \times 10^{+5}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
143	Lutetium-177	$2.71 \times 10^{+1}$	$1.29 \times 10^{+6}$	$2.58 \times 10^{+6}$
144	Magnesium-28	$1.75 \times 10^{+1}$	$3.11 \times 10^{+5}$	$6.23 \times 10^{+5}$
145	Manganese-51	$4.38 \times 10^{+2}$	$7.36 \times 10^{+6}$	$1.47 \times 10^{+7}$
146	Manganese-52	$1.65 \times 10^{+1}$	$3.81 \times 10^{+5}$	$7.61 \times 10^{+5}$
147	Manganese-52m	$5.96 \times 10^{+2}$	$9.93 \times 10^{+6}$	$1.99 \times 10^{+7}$
148	Manganese-53	$5.73 \times 10^{+2}$	$2.28 \times 10^{+7}$	$4.57 \times 10^{+7}$
149	Manganese-54	$1.99 \times 10^{+1}$	$9.65 \times 10^{+5}$	$1.93 \times 10^{+6}$
150	Manganese-56	$1.49 \times 10^{+2}$	$2.74 \times 10^{+6}$	$5.48 \times 10^{+6}$
151	Mercury-195m	$4.58 \times 10^{+1}$	$1.22 \times 10^{+6}$	$2.45 \times 10^{+6}$
152	Mercury-197	$1.03 \times 10^{+2}$	$2.98 \times 10^{+6}$	$5.96 \times 10^{+6}$
153	Mercury-197m	$4.51 \times 10^{+1}$	$1.46 \times 10^{+6}$	$2.91 \times 10^{+6}$
154	Mercury-203	$1.29 \times 10^{+1}$	$3.60 \times 10^{+5}$	$7.21 \times 10^{+5}$
155	Molybdenum-90	$5.32 \times 10^{+1}$	$1.10 \times 10^{+6}$	$2.21 \times 10^{+6}$
156	Molybdenum-93	$1.35 \times 10^{+1}$	$2.63 \times 10^{+5}$	$5.27 \times 10^{+5}$
157	Molybdenum-99	$2.71 \times 10^{+1}$	$5.71 \times 10^{+5}$	$1.14 \times 10^{+6}$
158	Molybdenum-101	$6.62 \times 10^{+2}$	$1.63 \times 10^{+7}$	$3.26 \times 10^{+7}$
159	Neodymium-147	$1.29 \times 10^{+1}$	$6.23 \times 10^{+5}$	$1.25 \times 10^{+6}$
160	Neodymium-149	$2.29 \times 10^{+2}$	$5.71 \times 10^{+6}$	$1.14 \times 10^{+7}$
161	Neptunium-237[1]	1.42×10^{-3}	$6.23 \times 10^{+3}$	$1.25 \times 10^{+4}$
162	Neptunium-239	$2.71 \times 10^{+1}$	$8.56 \times 10^{+5}$	$1.71 \times 10^{+6}$
163	Neptunium-240	$2.29 \times 10^{+2}$	$8.35 \times 10^{+6}$	$1.67 \times 10^{+7}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
164	Nickel-59	$1.35 \times 10^{+2}$	$1.09 \times 10^{+7}$	$2.17 \times 10^{+7}$
165	Nickel-63	$5.73 \times 10^{+1}$	$4.57 \times 10^{+6}$	$9.13 \times 10^{+6}$
166	Nickel-65	$2.29 \times 10^{+2}$	$3.81 \times 10^{+6}$	$7.61 \times 10^{+6}$
167	Niobium-93m	$3.46 \times 10^{+1}$	$5.71 \times 10^{+6}$	$1.14 \times 10^{+7}$
168	Niobium-94	6.62×10^{-1}	$4.03 \times 10^{+5}$	$8.06 \times 10^{+5}$
169	Niobium-95	$1.86 \times 10^{+1}$	$1.18 \times 10^{+6}$	$2.36 \times 10^{+6}$
170	Niobium-97	$4.14 \times 10^{+2}$	$1.01 \times 10^{+7}$	$2.01 \times 10^{+7}$
171	Niobium-98	$3.01 \times 10^{+2}$	$6.23 \times 10^{+6}$	$1.25 \times 10^{+7}$
172	Nitrogen-13[1]	-	-	-
173	Osmium-185	$1.99 \times 10^{+1}$	$1.34 \times 10^{+6}$	$2.69 \times 10^{+6}$
174	Osmium-191	$1.65 \times 10^{+1}$	$1.20 \times 10^{+6}$	$2.40 \times 10^{+6}$
175	Osmium-191m	$1.99 \times 10^{+2}$	$7.13 \times 10^{+6}$	$1.43 \times 10^{+7}$
176	Osmium-193	$4.38 \times 10^{+1}$	$8.46 \times 10^{+5}$	$1.69 \times 10^{+6}$
177	Oxygen-15	-	-	-
178	Palladium-103	$7.44 \times 10^{+1}$	$3.60 \times 10^{+6}$	$7.21 \times 10^{+6}$
179	Palladium-109	$5.96 \times 10^{+1}$	$1.25 \times 10^{+6}$	$2.49 \times 10^{+6}$
180	Phosphorus-32	9.31×10^{0}	$2.85 \times 10^{+5}$	$5.71 \times 10^{+5}$
181	Phosphorus-33	$2.13 \times 10^{+1}$	$2.85 \times 10^{+6}$	$5.71 \times 10^{+6}$
182	Platinum-191	$1.57 \times 10^{+2}$	$2.01 \times 10^{+6}$	$4.03 \times 10^{+6}$
183	Platinum-193m	$1.42 \times 10^{+2}$	$1.52 \times 10^{+6}$	$3.04 \times 10^{+6}$
184	Platinum-197	$1.86 \times 10^{+2}$	$1.71 \times 10^{+6}$	$3.42 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
185	Platinum-197m	$6.93 \times 10^{+2}$	$8.15 \times 10^{+6}$	$1.63 \times 10^{+7}$
186	Plutonium-234	1.35×10^{0}	$4.28 \times 10^{+6}$	$8.56 \times 10^{+6}$
187	Plutonium-235	$1.15 \times 10^{+4}$	$3.26 \times 10^{+8}$	$6.52 \times 10^{+8}$
188	Plutonium-236	1.65×10^{-3}	$7.96 \times 10^{+3}$	$1.59 \times 10^{+4}$
189	Plutonium-237	$8.27 \times 10^{+1}$	$6.85 \times 10^{+6}$	$1.37 \times 10^{+7}$
190	Plutonium-238	6.93×10^{-4}	$2.98 \times 10^{+3}$	$5.96 \times 10^{+3}$
191	Plutonium-239	6.34×10^{-4}	$2.74 \times 10^{+3}$	$5.48 \times 10^{+3}$
192	Plutonium-240	6.34×10^{-4}	$2.74 \times 10^{+3}$	$5.48 \times 10^{+3}$
193	Plutonium-241	3.50×10^{-2}	$1.46 \times 10^{+5}$	$2.91 \times 10^{+5}$
194	Plutonium-242	6.77×10^{-4}	$2.85 \times 10^{+3}$	$5.71 \times 10^{+3}$
195	Plutonium-243	$2.71 \times 10^{+2}$	$8.06 \times 10^{+6}$	$1.61 \times 10^{+7}$
196	Plutonium-244	6.77×10^{-4}	$2.85 \times 10^{+3}$	$5.71 \times 10^{+3}$
197	Polonium-203	$4.88 \times 10^{+2}$	$1.32 \times 10^{+7}$	$2.63 \times 10^{+7}$
198	Polonium-205	$3.35 \times 10^{+2}$	$1.16 \times 10^{+7}$	$2.32 \times 10^{+7}$
199	Polonium-207	$1.99 \times 10^{+2}$	$4.89 \times 10^{+6}$	$9.78 \times 10^{+6}$
200	Polonium-210	9.93×10^{-3}	$2.85 \times 10^{+3}$	$5.71 \times 10^{+3}$
201	Potassium-40	9.93×10^{0}	$1.10 \times 10^{+5}$	$2.21 \times 10^{+5}$
202	Potassium-42	$1.49 \times 10^{+2}$	$1.59 \times 10^{+6}$	$3.19 \times 10^{+6}$
203	Potassium-43	$1.15 \times 10^{+2}$	$2.74 \times 10^{+6}$	$5.48 \times 10^{+6}$
204	Praseodymium-142	$4.02 \times 10^{+1}$	$5.27 \times 10^{+5}$	$1.05 \times 10^{+6}$
205	Praseodymium-143	$1.29 \times 10^{+1}$	$5.71 \times 10^{+5}$	$1.14 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
206	Promethium-147	6.34×10^{0}	$2.63 \times 10^{+6}$	$5.27 \times 10^{+6}$
207	Promethium-149	$3.63 \times 10^{+1}$	$6.92 \times 10^{+5}$	$1.38 \times 10^{+6}$
208	Protactinium-230	4.19×10^{-2}	$7.44 \times 10^{+5}$	$1.49 \times 10^{+6}$
209	Protactinium-231	2.29×10^{-4}	$9.65 \times 10^{+2}$	$1.93 \times 10^{+3}$
210	Protactinium-233	8.05×10^{0}	$7.87 \times 10^{+5}$	$1.87 \times 10^{+6}$
211	Radium-223[1]	4.32×10^{-3}	$6.85 \times 10^{+3}$	$1.37 \times 10^{+4}$
212	Radium-224[1]	1.03×10^{-2}	$1.05 \times 10^{+4}$	$2.11 \times 10^{+4}$
213	Radium-225	5.13×10^{-3}	$7.21 \times 10^{+3}$	$1.44 \times 10^{+4}$
214	Radium-226[1]	1.86×10^{-3}	$2.45 \times 10^{+3}$	$4.89 \times 10^{+3}$
215	Radium-227	$1.06 \times 10^{+2}$	$8.15 \times 10^{+6}$	$1.63 \times 10^{+7}$
216	Radium-228[1]	1.15×10^{-2}	$1.02 \times 10^{+3}$	$2.04 \times 10^{+3}$
217	Radon-220[1]	$2.25 \times 10^{+1}$	-	-
218	Radon-222[1]	$1.12 \times 10^{+2}$	-	-
219	Rhenium-186	$2.48 \times 10^{+1}$	$4.57 \times 10^{+5}$	$9.13 \times 10^{+5}$
220	Rhenium-188	$4.02 \times 10^{+1}$	$4.89 \times 10^{+5}$	$9.78 \times 10^{+5}$
221	Rhodium-103m	$1.19 \times 10^{+4}$	$1.80 \times 10^{+8}$	$3.60 \times 10^{+8}$
222	Rhodium-105	$6.77 \times 10^{+1}$	$1.85 \times 10^{+6}$	$3.70 \times 10^{+6}$
223	Rubidium-81	$4.38 \times 10^{+2}$	$1.27 \times 10^{+7}$	$2.54 \times 10^{+7}$
224	Rubidium-86	$2.29 \times 10^{+1}$	$2.45 \times 10^{+5}$	$4.89 \times 10^{+5}$
225	Ruthenium-97	$1.86 \times 10^{+2}$	$4.57 \times 10^{+6}$	$9.13 \times 10^{+6}$
226	Ruthenium-103	$1.06 \times 10^{+1}$	$9.38 \times 10^{+5}$	$1.88 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
227	Ruthenium-105	$1.19 \times 10^{+2}$	$2.63 \times 10^{+6}$	$5.27 \times 10^{+6}$
228	Ruthenium-106[1]	4.80×10^{-1}	$9.78 \times 10^{+4}$	$1.96 \times 10^{+5}$
229	Samarium-147	3.35×10^{-3}	$1.40 \times 10^{+4}$	$2.80 \times 10^{+4}$
230	Samarium-151	8.05×10^{0}	$6.99 \times 10^{+6}$	$1.40 \times 10^{+7}$
231	Samarium-153	$4.38 \times 10^{+1}$	$9.26 \times 10^{+5}$	$1.85 \times 10^{+6}$
232	Scandium-44	$9.93 \times 10^{+1}$	$1.96 \times 10^{+6}$	$3.91 \times 10^{+6}$
233	Scandium-46	4.65×10^{0}	$4.57 \times 10^{+5}$	$9.13 \times 10^{+5}$
234	Scandium-47	$4.08 \times 10^{+1}$	$1.27 \times 10^{+6}$	$2.54 \times 10^{+6}$
235	Scandium-48	$1.86 \times 10^{+1}$	$4.03 \times 10^{+5}$	$8.06 \times 10^{+5}$
236	Selenium-73	$1.24 \times 10^{+2}$	$1.76 \times 10^{+6}$	$3.51 \times 10^{+6}$
237	Selenium-75	$1.75 \times 10^{+1}$	$2.63 \times 10^{+5}$	$5.27 \times 10^{+5}$
238	Silicon-31	$2.71 \times 10^{+2}$	$4.28 \times 10^{+6}$	$8.56 \times 10^{+6}$
239	Silicon-32	2.71×10^{-1}	$1.22 \times 10^{+6}$	$2.45 \times 10^{+6}$
240	Silver-105	$3.72 \times 10^{+1}$	$1.46 \times 10^{+6}$	$2.91 \times 10^{+6}$
241	Silver-108m	8.51×10^{-1}	$2.98 \times 10^{+5}$	$5.96 \times 10^{+5}$
242	Silver-110m	2.48×10^{0}	$2.45 \times 10^{+5}$	$4.89 \times 10^{+5}$
243	Silver-111	$1.75 \times 10^{+1}$	$5.27 \times 10^{+5}$	$1.05 \times 10^{+6}$
244	Sodium-22	$1.49 \times 10^{+1}$	$2.14 \times 10^{+5}$	$4.28 \times 10^{+5}$
245	Sodium-24	$5.62 \times 10^{+1}$	$1.59 \times 10^{+6}$	$3.19 \times 10^{+6}$
246	Strontium-82	2.98×10^{0}	$1.12 \times 10^{+5}$	$2.25 \times 10^{+5}$
247	Strontium-85	$3.87 \times 10^{+1}$	$1.22 \times 10^{+6}$	$2.45 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
248	Strontium-85m	$4.02 \times 10^{+3}$	$1.12 \times 10^{+8}$	$2.25 \times 10^{+8}$
249	Strontium-87m	$8.51 \times 10^{+2}$	$2.08 \times 10^{+7}$	$4.15 \times 10^{+7}$
250	Strontium-89	3.97×10^{0}	$2.63 \times 10^{+5}$	$5.27 \times 10^{+5}$
251	Strontium-90[1]	1.99×10^{-1}	$2.45 \times 10^{+4}$	$4.89 \times 10^{+4}$
252	Strontium-91	$5.22 \times 10^{+1}$	$9.01 \times 10^{+5}$	$1.80 \times 10^{+6}$
253	Strontium-92	$8.76 \times 10^{+1}$	$1.40 \times 10^{+6}$	$2.80 \times 10^{+6}$
254	Sulphur-35	$2.29 \times 10^{+2}$	$8.90 \times 10^{+5}$	$1.78 \times 10^{+6}$
255	Tantalum-182	3.07×10^{0}	$4.57 \times 10^{+5}$	$9.13 \times 10^{+5}$
256	Technetium-95m	$3.42 \times 10^{+1}$	$1.10 \times 10^{+6}$	$2.21 \times 10^{+6}$
257	Technetium-96	$2.98 \times 10^{+1}$	$6.23 \times 10^{+5}$	$1.25 \times 10^{+6}$
258	Technetium-96m	$2.71 \times 10^{+3}$	$5.27 \times 10^{+7}$	$1.05 \times 10^{+8}$
259	Technetium-97	$1.42 \times 10^{+2}$	$8.25 \times 10^{+6}$	$1.65 \times 10^{+7}$
260	Technetium-97m	9.61×10^{0}	$1.04 \times 10^{+6}$	$2.08 \times 10^{+6}$
261	Technetium-99	7.64×10^{0}	$8.78 \times 10^{+5}$	$1.76 \times 10^{+6}$
262	Technetium-99m	$1.03 \times 10^{+3}$	$3.11 \times 10^{+7}$	$6.23 \times 10^{+7}$
263	Tellurium-123m	7.64×10^{0}	$4.89 \times 10^{+5}$	$9.78 \times 10^{+5}$
264	Tellurium-125m	9.02×10^{0}	$7.87 \times 10^{+5}$	$1.57 \times 10^{+6}$
265	Tellurium-127	$1.65 \times 10^{+2}$	$4.03 \times 10^{+6}$	$8.06 \times 10^{+6}$
266	Tellurium-127m	4.14×10^{0}	$2.98 \times 10^{+5}$	$5.96 \times 10^{+5}$
267	Tellurium-129	$5.22 \times 10^{+2}$	$1.09 \times 10^{+7}$	$2.17 \times 10^{+7}$
268	Tellurium-129m	4.73×10^{0}	$2.28 \times 10^{+5}$	$4.57 \times 10^{+5}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m³)	Column 3 Release to water concentration (Bq/m³)	Column 4 Release to sewerage system concentration (Bq/m³)
269	Tellurium-131	$4.88 \times 10^{+2}$	$7.87 \times 10^{+6}$	$1.57 \times 10^{+7}$
270	Tellurium-131m	$1.86 \times 10^{+1}$	$3.60 \times 10^{+5}$	$7.21 \times 10^{+5}$
271	Tellurium-132	9.93×10^{0}	$1.85 \times 10^{+5}$	$3.70 \times 10^{+5}$
272	Tellurium-133	$6.77 \times 10^{+2}$	$9.51 \times 10^{+6}$	$1.90 \times 10^{+7}$
273	Tellurium-133m	$1.57 \times 10^{+2}$	$2.45 \times 10^{+6}$	$4.89 \times 10^{+6}$
274	Tellurium-134	$2.71 \times 10^{+2}$	$6.23 \times 10^{+6}$	$1.25 \times 10^{+7}$
275	Terbium-160	4.51×10^{0}	$4.28 \times 10^{+5}$	$8.56 \times 10^{+5}$
276	Thallium-200	$1.19 \times 10^{+2}$	$3.42 \times 10^{+6}$	$6.85 \times 10^{+6}$
277	Thallium-201	$3.92 \times 10^{+2}$	$7.21 \times 10^{+6}$	$1.44 \times 10^{+7}$
278	Thallium-202	$9.61 \times 10^{+1}$	$1.52 \times 10^{+6}$	$3.04 \times 10^{+6}$
279	Thallium-204	$4.80 \times 10^{+1}$	$5.27 \times 10^{+5}$	$1.05 \times 10^{+6}$
280	Thorium-226[1]	3.82×10^{-1}	$1.90 \times 10^{+6}$	$3.81 \times 10^{+6}$
281	Thorium-227	3.10×10^{-3}	$7.70 \times 10^{+4}$	$1.54 \times 10^{+5}$
282	Thorium-228[1]	7.64×10^{-4}	$9.78 \times 10^{+3}$	$1.96 \times 10^{+4}$
283	Thorium-229[1]	3.01×10^{-4}	$1.43 \times 10^{+3}$	$2.85 \times 10^{+3}$
284	Thorium-230	7.44×10^{-4}	$3.26 \times 10^{+3}$	$6.52 \times 10^{+3}$
285	Thorium-231	$7.44 \times 10^{+1}$	$2.01 \times 10^{+6}$	$4.03 \times 10^{+6}$
286	Thorium-232	7.09×10^{-4}	$3.11 \times 10^{+3}$	$6.23 \times 10^{+3}$
287	Thorium-234[1]	4.08×10^{0}	$2.01 \times 10^{+5}$	$4.03 \times 10^{+5}$
288	Thorium-nat	7.09×10^{-4}	$3.11 \times 10^{+3}$	$6.23 \times 10^{+3}$
289	Thulium-170	4.51×10^{0}	$5.27 \times 10^{+5}$	$1.05 \times 10^{+6}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
290	Thulium-171	$2.29 \times 10^{+1}$	$6.23 \times 10^{+6}$	$1.25 \times 10^{+7}$
291	Tin-113	$1.19 \times 10^{+1}$	$9.38 \times 10^{+5}$	$1.88 \times 10^{+6}$
292	Tin-117m	$1.29 \times 10^{+1}$	$9.65 \times 10^{+5}$	$1.93 \times 10^{+6}$
293	Tin-121	$1.06 \times 10^{+2}$	$2.98 \times 10^{+6}$	$5.96 \times 10^{+6}$
294	Tin-125	9.93×10^{0}	$2.21 \times 10^{+5}$	$4.42 \times 10^{+5}$
295	Tungsten-181	$6.93 \times 10^{+2}$	$8.35 \times 10^{+6}$	$1.67 \times 10^{+7}$
296	Tungsten-185	$1.35 \times 10^{+2}$	$1.37 \times 10^{+6}$	$2.74 \times 10^{+6}$
297	Tungsten-187	$9.02 \times 10^{+1}$	$9.65 \times 10^{+5}$	$1.93 \times 10^{+6}$
298	Tungsten-188	$3.55 \times 10^{+1}$	$2.98 \times 10^{+5}$	$5.96 \times 10^{+5}$
299	Uranium-230[1]	1.99×10^{-3}	$1.25 \times 10^{+4}$	$2.49 \times 10^{+4}$
300	Uranium-231	$7.44 \times 10^{+1}$	$2.45 \times 10^{+6}$	$4.89 \times 10^{+6}$
301	Uranium-232[1]	8.51×10^{-4}	$2.08 \times 10^{+3}$	$4.15 \times 10^{+3}$
302	Uranium-233	3.42×10^{-3}	$1.37 \times 10^{+4}$	$2.74 \times 10^{+4}$
303	Uranium-234	3.50×10^{-3}	$1.40 \times 10^{+4}$	$2.80 \times 10^{+4}$
304	Uranium-235[1]	3.87×10^{-3}	$1.49 \times 10^{+4}$	$2.98 \times 10^{+4}$
305	Uranium-236	3.77×10^{-3}	$1.49 \times 10^{+4}$	$2.98 \times 10^{+4}$
306	Uranium-237	$1.65 \times 10^{+1}$	$8.90 \times 10^{+5}$	$1.78 \times 10^{+6}$
307	Uranium-238	4.08×10^{-3}	$1.56 \times 10^{+4}$	$3.11 \times 10^{+4}$
308	Uranium-239	$8.51 \times 10^{+2}$	$2.45 \times 10^{+7}$	$4.89 \times 10^{+7}$
309	Uranium-240	$3.55 \times 10^{+1}$	$6.23 \times 10^{+5}$	$1.25 \times 10^{+6}$
310	Uranium-nat	4.08×10^{-3}	$1.56 \times 10^{+4}$	$3.11 \times 10^{+4}$

Item	Column 1 Radionuclide	Column 2 Release to air concentration (Bq/m^3)	Column 3 Release to water concentration (Bq/m^3)	Column 4 Release to sewerage system concentration (Bq/m^3)
311	Vanadium-48	$1.10 \times 10^{+1}$	$3.42 \times 10^{+5}$	$6.85 \times 10^{+5}$
312	Xenon-131m	$4.28 \times 10^{+4}$	-	-
313	Xenon-133	$1.14 \times 10^{+4}$	-	-
314	Xenon-135	$1.43 \times 10^{+3}$	-	-
315	Ytterbium-169	$1.06 \times 10^{+1}$	$9.65 \times 10^{+5}$	$1.93 \times 10^{+6}$
316	Ytterbium-175	$4.25 \times 10^{+1}$	$1.56 \times 10^{+6}$	$3.11 \times 10^{+6}$
317	Yttrium-88	7.26×10^{0}	$5.27 \times 10^{+5}$	$1.05 \times 10^{+6}$
318	Yttrium-90	$1.75 \times 10^{+1}$	$2.54 \times 10^{+5}$	$5.07 \times 10^{+5}$
319	Yttrium-91	3.55×10^{0}	$2.85 \times 10^{+5}$	$5.71 \times 10^{+5}$
320	Yttrium-91m	$1.99 \times 10^{+3}$	$6.23 \times 10^{+7}$	$1.25 \times 10^{+8}$
321	Yttrium-92	$1.06 \times 10^{+2}$	$1.40 \times 10^{+6}$	$2.80 \times 10^{+6}$
322	Yttrium-93	$4.96 \times 10^{+1}$	$5.71 \times 10^{+5}$	$1.14 \times 10^{+6}$
323	Zinc-65	$1.03 \times 10^{+1}$	$1.76 \times 10^{+5}$	$3.51 \times 10^{+5}$
324	Zinc-69	$6.93 \times 10^{+2}$	$2.21 \times 10^{+7}$	$4.42 \times 10^{+7}$
325	Zinc-69m	$9.02 \times 10^{+1}$	$2.08 \times 10^{+6}$	$4.15 \times 10^{+6}$
326	Zirconium-93[1]	1.03×10^{0}	$2.45 \times 10^{+6}$	$4.89 \times 10^{+6}$
327	Zirconium-95	5.41×10^{0}	$7.78 \times 10^{+5}$	$1.56 \times 10^{+6}$
328	Zirconium-97[1]	$2.13 \times 10^{+1}$	$3.26 \times 10^{+5}$	$6.52 \times 10^{+5}$

The superscript '1' immediately following an item in column 1 indicates that the item's concentration is the concentration of the parent radionuclide and its progeny when in secular equilibrium.

Schedule 4 Qualifications [sch 5]

section 49

Column 1 Radiation practice	Column 2 Qualification
dental plain diagnostic imaging of a person, or dental therapeutic procedures carried out with a laser apparatus	general registration under the Health Practitioner Regulation National Law as a dentist
plain diagnostic imaging of a person	general registration under the Health Practitioner Regulation National Law as a medical practitioner
plain diagnostic imaging of the spine, pelvis or extremities of a person	general registration under the Health Practitioner Regulation National Law as a chiropractor
plain diagnostic imaging of an animal	registration under the *Veterinary Surgeons Act 1936*

Schedule 5 Radiation dose limits for ionising radiation

sections 53(2)(a), (b) and (d), 54(2)(a) and (b), 55(2)(a), (b) and (d), 56(2)(a), (b) and (d), 57(2) and 58(2)

Part 1 Occupational exposure of adult while involved in carrying out radiation practice

1 an average of the annual total effective dose for the person, over a 5-year period, of 20mSv in any 12-month period

2 a total effective dose for the person of 50mSv in any 12-month period

3 an average of the equivalent dose for each lens of the person's eyes, over a 5-year period, of 20mSv in any 12-month period

4 an equivalent dose for each lens of the person's eyes of 50mSv in any 12-month period

5 an equivalent dose for each of the person's hands and feet, or for a square centimetre of the person's skin of 500mSv in any 12-month period

Part 2 Occupational exposure of person who is 16 or 17 years while involved in carrying out radiation practice

1 an annual total effective dose for the person of 6mSv in any 12-month period

2 an equivalent dose for each lens of the person's eyes of 20mSv in any 12-month period

3 an equivalent dose for each of the person's hands and feet, or for a square centimetre of the person's skin, of 150mSv in any 12-month period

Part 3 Exposure of person other than while involved in carrying out radiation practice

1 a total effective dose for the person of 1mSv in any 12-month period

2 an equivalent dose for each lens of the person's eyes of 15mSv in any 12-month period

3 an equivalent dose for a square centimetre of the person's skin of 50mSv in any 12-month period

Schedule 6 Authorised persons [sch 6]

section 66

Part 1 Diagnostic procedures

	Column 1 Diagnostic procedure	Column 2 Authorised person
1	dental plain diagnostic imaging of the teeth and facial bones	a dentist or oral health therapist
2	intra-oral bitewing dental plain diagnostic imaging	a dental therapist
3	plain diagnostic imaging	a person who is— (a) a medical practitioner; or (b) a nurse practitioner; or (c) a registered nurse; or (d) a physiotherapist
4	plain diagnostic imaging of the hand and wrist or lateral plain diagnostic imaging projections of the cervical spine for bone age assessment	a dentist
5	plain diagnostic imaging of the foot, ankle, lower leg, knee, thigh and hip	a podiatrist

	Column 1 Diagnostic procedure	Column 2 Authorised person
6	plain diagnostic imaging of the neuromusculoskeletal system	a chiropractor
7	plain diagnostic imaging of the chest, of a person who presents at a public sector health service facility that undertakes screening procedures for tuberculosis, under a protocol for tuberculosis screening approved by the chief executive	the chief executive

	Column 1 Diagnostic procedure	Column 2 Authorised person
8	mammography, under a protocol for breast cancer screening approved by the chief executive, of a woman who— (a) presents at a BreastScreen Queensland Service for the purpose of breast cancer screening; and (b) is eligible to participate in the Queensland Health BreastScreen Queensland Program; and (c) signs the "BreastScreen Queensland Consent for Screening Mammogram" form	the chief executive
9	computed tomography and mammography	a person who is— (a) a specialist health practitioner in the specialty of radiology—diagnostic radiology; or (b) a medical practitioner undergoing a period of training in the specialty of radiology—diagnostic radiology

	Column 1 Diagnostic procedure	Column 2 Authorised person
10	computed tomography, mammography and bone mineral densitometry as part of a radiation oncology procedure	a person who is— (a) a specialist health practitioner in the specialty of radiation oncology; or (b) a medical practitioner undergoing a period of training in the specialty of radiation oncology
11	dental cone beam computed tomography	a dentist who has written approval from the chief executive stating the dentist is approved to request the procedure
12	fluoroscopy	a person who is— (a) a specialist health practitioner in a recognised specialty; or (b) a medical practitioner undergoing a period of training in a recognised specialty
13	bone mineral densitometry	a person who is— (a) a specialist health practitioner in the specialty of— (i) radiology—diagnostic radiology; or (ii) radiology—nuclear medicine; or (iii) physician—endocrinology; or (iv) physician—nuclear medicine; or (v) paediatrics and child health—paediatric nuclear medicine; or

	Column 1 Diagnostic procedure	Column 2 Authorised person
		(b) a medical practitioner undergoing a period of training in a specialty mentioned in paragraph (a); or (c) the holder of a written approval from the chief executive stating the person is approved to request the procedure, and who is— (i) a specialist health practitioner in a specialty other than a specialty mentioned in paragraph (a); or (ii) a medical practitioner undergoing a period of training in a specialty other than a specialty mentioned in paragraph (a)
14	diagnostic nuclear medicine	a person who is— (a) a specialist health practitioner in the specialty of radiology—nuclear medicine; or (b) a specialist health practitioner in the specialty of physician—nuclear medicine; or (c) a specialist health practitioner in the specialty of paediatrics and child health—paediatric nuclear medicine; or (d) a medical practitioner undergoing a period of training in a specialty mentioned in paragraph (a), (b) or (c)

	Column 1 Diagnostic procedure	Column 2 Authorised person
15	in vivo tests for pathology involving the use of unsealed radioactive substances	a person who is— (a) a specialist health practitioner in the specialty of pathology; or (b) a medical practitioner undergoing a period of training in the specialty of pathology

Part 2 Therapeutic procedures

	Column 1 Therapeutic procedure	Column 2 Authorised person
16	treatment of malignant or benign conditions involving the use of radiation sources	a person who is— (a) a specialist health practitioner in the specialty of radiation oncology; or (b) a medical practitioner undergoing a period of training in the specialty of radiation oncology
17	treatment of malignant or benign conditions involving the use of unsealed radioactive substances	a person who is— (a) a specialist health practitioner in the specialty of radiology—nuclear medicine; or (b) a specialist health practitioner in the specialty of physician—nuclear medicine; or (c) a specialist health practitioner in the specialty of paediatrics and child health—paediatric nuclear medicine; or

	Column 1 Therapeutic procedure	Column 2 Authorised person
		(d) a medical practitioner undergoing a period of training in a specialty mentioned in paragraph (a), (b) or (c)
18	treatment of skin lesions involving the use of sealed radioactive substances	a person— (a) who is— (i) a specialist health practitioner in the specialty of dermatology; or (ii) a medical practitioner undergoing a period of training in the specialty of dermatology; and (b) whose decision to prescribe the procedure is in accordance with a decision, about the desired outcome of the treatment, made by the person and another person who is a specialist health practitioner in the specialty of radiation oncology
19	treatment of eye lesions involving the use of sealed radioactive substances	a person who is— (a) a specialist health practitioner in the specialty of ophthalmology; or (b) a medical practitioner undergoing a period of training in the specialty of ophthalmology
20	treatment of vascular stenosis	a person— (a) who is—

Column 1	Column 2
Therapeutic procedure	**Authorised person**
	(i) a specialist health practitioner in the specialty of— (A) physician—cardiology; or (B) surgery—vascular surgery; or (C) radiology—diagnostic radiology; or (ii) a medical practitioner undergoing a period of training in a specialty mentioned in subparagraph (i); and (b) whose decision to prescribe the procedure is in accordance with a decision about the desired outcome of the treatment, made by the person and another person— (i) who is a specialist health practitioner in the specialty of radiology—nuclear medicine and holds a written approval from the chief executive stating the person is approved to prescribe the procedure; or (ii) who is a specialist health practitioner in the specialty of radiation oncology; or (iii) who is a specialist health practitioner in the specialty of physician—nuclear medicine

	Column 1 Therapeutic procedure	Column 2 Authorised person
21	therapeutic procedures involving the use of laser apparatus	a person who is— (a) a medical practitioner; or (b) a dentist
22	treatment of the lower limbs for onychomycosis or ablation of warts involving the use of a laser apparatus	a podiatrist

Schedule 7 Proof of identity documents [sch 4]

section 69

Part 1 Primary identity documents

1 Australian birth certificate

2 overseas birth certificate accompanied by a passport or Australian visa document issued by the Commonwealth department in which the *Migration Act 1958* (Cwlth) is administered

3 a travel-related document under the *Australian Passports Act 2005* (Cwlth)

4 Australian passport that is current or has not been expired for more than 2 years

5 current foreign passport

6 document evidencing Australian citizenship issued by the Commonwealth department in which the *Migration Act 1958* (Cwlth) is administered

7 Australian driver licence that is current or has not been expired for more than 2 years

Part 2 Secondary identity documents

1 current identification card issued by the Commonwealth or a State as evidence of the person's entitlement to a financial benefit

Example—

- seniors health card
- health care card
- Medicare card

- pensioner concession card
- entitlement card issued by the Department of Veterans' Affairs

2 account statement issued by a financial institution within the previous year

3 document evidencing discharge from military service within the previous 2 years

4 student identification card containing the person's photograph and signature that is current or has not been expired for more than 2 years

5 document evidencing enrolment in a school, university, training institution or professional college within the previous 2 years

6 document evidencing electoral enrolment within the previous 2 years

7 utilities account statement issued by a utilities provider within the previous year

8 notice of land valuation, water rates or council rates issued within the previous year

Schedule 8 Fees

sections 99, 100 and 101

Part 1 Possession licences

			$
1	Application fee for a possession licence for a radiation source—		
	(a)	if the radioactive substance is a security enhanced source	968.50
	(a)	otherwise	484.00
2	Licence fee for a possession licence for the possession of a radiation source—		
	(a)	if the term of the licence is 1 year or less—	
		(i) base fee	276.00
		(ii) for each radiation apparatus	82.50
		(iii) for each sealed radioactive substance or type of unsealed radioactive substance	110.50
	(b)	if the term of the licence is more than 1 year but not more than 2 years—	
		(i) base fee	552.00
		(ii) for each radiation apparatus	165.00
		(iii) for each sealed radioactive substance or type of unsealed radioactive substance	221.00
	(c)	if the term of the licence is more than 2 years but not more than 3 years—	
		(i) base fee	828.00

		$
	(ii) for each radiation apparatus	247.50
	(iii) for each sealed radioactive substance or type of unsealed radioactive substance	331.50

Part 2 Transport licences and use licences

		$
3	Application fee for a transport licence or use licence	96.50
4	Licence fee for a transport licence or use licence—	
	(a) if the term of the licence is 1 year or less	69.00
	(b) if the term of the licence is more than 1 year but not more than 2 years	138.00
	(c) if the term of the licence is more than 2 years but not more than 3 years	207.00

Part 3 Other Act instruments

		$
5	Application fee for an approval to acquire or a continuing approval to acquire	41.50
6	Application fee for an approval to dispose	484.00
7	Application fee for an approval to relocate	28.00
8	Application fee for an accreditation certificate	276.00
9	Accreditation certificate fee—	

		$
	(a) if the term of the certificate is 1 year or less	138.00
	(b) if the term of the certificate is more than 1 year but not more than 2 years	276.00
	(c) if the term of the certificate is more than 2 years but not more than 3 years	414.00
10	Application fee for a radiation safety officer certificate	96.50
11	Radiation safety officer certificate fee—	
	(a) if the term of the certificate is 1 year or less	69.00
	(b) if the term of the certificate is more than 1 year but not more than 2 years	138.00
	(c) if the term of the certificate is more than 2 years but not more than 3 years	207.00

Part 4 Other fees

		$
12	Application by a possession licensee to change the licensee's approved radiation safety and protection plan for a radiation practice (Act, s 31(2)(b))	484.00
13	Application by a possession licensee to change the licensee's approved security plan (Act, s 34D(2)(b))	484.00
14	Application for approval of a transport security plan (Act, s 34J(1)(c)(iii))	484.00
15	Application by a transport security plan holder to change the holder's approved transport security plan (Act, s 34O(2)(b))	484.00

		$
16	Application by the holder of a conditional Act instrument to change the conditions of the instrument imposed by the chief executive (Act, s 96(2)(b))	484.00
17	Issue of an Act instrument to replace a lost, stolen, destroyed or damaged Act instrument (Act, s 101(4))	28.00
18	Security check and criminal history check (Act, s 103A(3))	114.50
19	Copy of the register, or a part of it, for each page (Act, s 208(c))	1.00

Schedule 9 Dictionary

section 3

administered, a radioactive substance, includes introducing a radioactive substance into the body of a person by any means, but does not include dispensing a radioactive substance.

ancillary imaging equipment, used in connection with the use of a radiation source to carry out a radiation practice involving the production of images, means equipment, other than the source, used in the production and viewing of the images.

ARPANSA means the Australian Radiation Protection and Nuclear Safety Agency.

Australian drinking water guidelines means the document called 'Australian drinking water guidelines, paper 6, national water quality management strategy', dated 2011 and published on the National Health and Medical Research Council's website.

Bq means a becquerel.

cabinet radiation apparatus means an ionising radiation apparatus that—

(a) is contained in a cabinet that is shielded in a way that minimises the transmission of ionising radiation through the shielding; and

(b) is designed to image or assess things delivered into the cabinet by a continuous process; and

(c) is used for—

(i) security, or quality control, purposes; or

(ii) industrial sorting.

chiropractor means a person registered under the Health Practitioner Regulation National Law to practise in the chiropractic profession, other than as a student.

commissioning means the tasks involved in installing a radiation source, including tasks to ensure the source is operating in the way it is designed to operate.

computed tomography means computed tomography of any type, including, for example, cone beam computed tomography.

dental therapist means a person registered under the Health Practitioner Regulation National Law—

(a) to practise in the dental profession, other than as a student; and

(b) in the dental therapists division of that profession.

dentist means a person registered under the Health Practitioner Regulation National Law—

(a) to practise in the dental profession, other than as a student; and

(b) in the dentists division of that profession.

diagnostic imaging includes diagnostic radiography.

educational institution means a school, university, training institution or professional college that—

(a) educates persons about radiation sources; or

(b) uses radiation sources in the course of its education of persons.

enclosed radiation apparatus means an ionising radiation apparatus that—

(a) is contained in a cabinet that is shielded in a way that minimises the transmission of ionising radiation through the shielding; and

(b) requires the article or sample to be delivered into the cabinet by a batch or manual process; and

(c) is used for—

(i) imaging or assessing manufactured articles or discrete samples for quality control or other purposes; or

(ii) physical or pathological analysis of samples.

equivalent dose, for a person's organ or tissue that is exposed to radiation, means the equivalent dose for the organ or tissue, calculated under the document called 'Code for Radiation Protection in Planned Exposure Situations' (2020) published by ARPANSA.

Editor's note—

A copy of the code is available on ARPANSA's website.

external effective dose, received by a person, for part 8, division 1, see section 52.

gaseous tritium light device means equipment or an instrument, article or subassembly, other than equipment or an instrument, article or subassembly that is a timepiece, incorporating a sealed glass container—

(a) filled with the radionuclide hydrogen-3 in a gaseous form; and

(b) coated internally with a phosphor.

GBq means a gigabecquerel.

gigabecquerel means 1,000,000,000 becquerels.

health-related exposure, of a person to ionising radiation, for part 8, division 1, see section 52.

internal effective dose, received by a person, for part 8, division 1, see section 52.

ionising radiation apparatus means an apparatus mentioned in schedule 2 of the Act, definition *radiation apparatus*, paragraph (a) or (b).

ionising radiation source means a radiation source that emits ionising radiation.

kBq means a kilobecquerel.

kilobecquerel means 1,000 becquerels.

laser apparatus means a radiation apparatus that is a laser that—

(a) could reasonably be used to carry out a diagnostic or therapeutic procedure involving the irradiation of a person; and

(b) has an accessible emission limit of more than class 3B for the period stated in, and measured in accordance with, the laser standard.

laser standard means AS/NZS IEC 60825.1-2014 (Safety of laser products, Part 1: Equipment classification and requirements), published jointly by Standards Australia and Standards New Zealand.

MBq means a megabecquerel.

megabecquerel means 1,000,000 becquerels.

microgray means 1/1,000,000 part of a gray.

millisievert means 1/1,000 part of a sievert.

mineral see the *Mineral Resources Act 1989*, section 6.

mineral substance see section 4(2).

mSv means a millisievert.

natural background exposure, of a person to ionising radiation, for part 8, division 1, see section 52.

nurse practitioner means a person registered under the Health Practitioner Regulation National Law—

(a) to practise in the nursing profession, other than as a student; and

(b) whose registration is endorsed under that law as being qualified to practise as a nurse practitioner.

occupational exposure, of a person to ionising radiation, see section 52.

oral health therapist means a person registered under the Health Practitioner Regulation National Law—

(a) to practise in the dental profession, other than as a student; and

(b) in the oral health therapists division of that profession.

personal protective equipment means equipment that, when worn by a person while involved in carrying out a radiation practice, reduces the exposure of the person to radiation attributable to the carrying out of the practice.

physiotherapist means a person registered under the Health Practitioner Regulation National Law to practise in the physiotherapy profession, other than as a student.

plain diagnostic imaging means diagnostic imaging by single projection imaging using x-ray transmission.

podiatrist means a person registered under the Health Practitioner Regulation National Law to practise in the podiatry profession, other than as a student.

public exposure, of a person to ionising radiation, for part 8, division 1, see section 52.

public sector health service facility see the *Hospital and Health Boards Act 2011*, schedule 2.

quality control procedures means—

(a) for ancillary imaging equipment used in connection with the use of a radiation source to carry out a radiation practice involving the production of images—preventative maintenance, or routine checking, procedures undertaken to ensure the correct operation of the equipment for the practice; or

(b) for a radiation source used in carrying out a radiation practice—

(i) if the source is a radiation apparatus—preventative maintenance, or routine checking, procedures undertaken to ensure the correct operation of the apparatus for the practice; or

(ii) if the source is a radioactive substance—routine checking procedures undertaken to verify the suitability of the substance for the practice; or

(c) for a sealed source apparatus used in carrying out a radiation practice—preventative maintenance, or routine checking, procedures undertaken to ensure the correct operation of the apparatus for the practice.

recognised specialty see the Health Practitioner Regulation National Law (Queensland), section 5.

registered nurse means a person registered under the Health Practitioner Regulation National Law—

(a) to practise in the nursing profession, other than as a student; and

(b) in the registered nurses division of that profession.

relevant part, of the series called 'Occupational Intakes of Radionuclides', for part 8, division 1, see section 52.

relevant solarium means a solarium other than a solarium owned by an individual and not used for a business.

SI means the International System of Units.

sievert, for a total effective dose or an equivalent dose, means the SI unit for the dose.

solarium means an electrically powered apparatus designed to produce tanning of human skin by exposure of the skin to non-ionising radiation emitted by the apparatus.

specialist health practitioner, in a specialty, means a person registered under the Health Practitioner Regulation National Law to practise in the medical profession as a specialist registrant in the specialty.

TCLP means the toxicity characteristics leaching procedure stated in AS 4439.2-1997 (Wastes, sediments and contaminated soils, Part 2: Preparation of leachates—Zero headspace procedure).

threat level see section 29.

total effective dose, for a person for a period, see section 52.

transport code of practice means the document called 'Code for the Safe Transport of Radioactive Material' (2019) published by ARPANSA.

weighted equivalent dose, for a person's organ or tissue that is exposed to radiation, for part 8, division 1, see section 52.

ENDNOTES

1 Made by the Governor in Council on [Made by Governor Date].

2 Notified on the Queensland legislation website on [Notification Date].

3 The administering agency is Queensland Health.