Radiation Safety Regulation 2021

Explanatory notes for SL 2021 No. 125

made under the

Radiation Safety Act 1999

General Outline

Short title

Radiation Safety Regulation 2021

Authorising law

Section 215 of the *Radiation Safety Act 1999*

Policy objectives and the reasons for them

The main objective of the *Radiation Safety Act 1999* (Act) is to protect persons and the environment from the harmful effects of particular sources of ionising radiation and harmful non-ionising radiation, while recognising the beneficial uses of radiation. The Act provides a safety and protection framework by regulating how radiation sources can be used, establishing a licensing and compliance regime, imposing restrictions and prohibiting particular radiation sources. The *Radiation Safety Regulation 2010* (existing Regulation) prescribes requirements to support the operation of the Act.

The existing Regulation was due to expire on 31 August 2020. The *Statutory Instruments (Exemptions from Expiry) Amendment Regulation 2020* exempted the existing Regulation from expiry until 1 September 2021.

The *Radiation Safety Regulation 2021* (Regulation) has been prepared to replace the existing Regulation. The Regulation continues the existing framework by prescribing various matters necessary to support the Act, such as:

- labelling and classification requirements for lasers, including which lasers are considered radiation apparatus subject to the licensing requirements of the Act;
- standard conditions that apply to particular licences;
- requirements for the disposal of radioactive material;
- exemptions from the requirements to hold a use or possession licence for particular radiation sources; and
- persons authorised to request or prescribe diagnostic or therapeutic procedures.

As the matters prescribed in the Regulation are critical to supporting the operation of the Act, the existing Regulation must be remade to ensure that the legislative requirements can continue.

Achievement of policy objectives

The Regulation is generally consistent with the existing Regulation, with minor changes to improve its operation. The Regulation has been re-structured and revised to reflect contemporary drafting practices and improves clarity and readability.

The key changes in the Regulation include:

- reducing the regulatory burden on industry by extending the prescribed period for certificates of compliance where an apparatus is used under a quality assurance program approved by the chief executive to 10 years. Currently, this period varies between one year and five years depending on the radiation practice for which the apparatus is used;
- classifying all lasers above Class 1 as radiation apparatus, to help ensure all lasers are properly classified and labelled in accordance with the laser standard;
- clarifying that the *Code of Practice for Radiation Protection in Dentistry (2005)*, published by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) applies to both intra and extra-oral dental diagnostic radiography;
- prescribing specific requirements for the disposal of reverse osmosis concentrate generated as a by-product of water purification, to clarify performance criteria and ensure appropriate regulation of purified water treatment facilities;
- simplifying the arrangements for recognising training courses which qualify a person for an exemption from the requirement to hold a use licence;
- providing that certain additional radiation sources, such as krypton-85 in energy saving lightbulbs, are exempt from licensing requirements under the Act;
- updating the list of persons allowed to prescribe therapeutic or request diagnostic procedures so as not to impose undue restrictions on clinical practice. For example, podiatrists will be able to authorise use of laser apparatus to treat warts and fungal nail infections, allowing them to work their full scope of practice and improve patient access to timely and cost effective care;
- prescribing dental cone beam computed tomography (CBCT) imaging as a diagnostic procedure, including specifying who is authorised to request CBCT imaging;
- amending the schedule of fees to more accurately describe the licences for which fees are payable, updating references to documents and updating definitions; and
- replacing references to ‘plain film diagnostic radiography’ with ‘plain diagnostic imaging’ to reflect that equipment using X-ray film is obsolete and has been replaced by digital X-ray techniques.

Consistency with policy objectives of authorising law

The Regulation is consistent with the policy objectives of the Act.

Inconsistency with policy objectives of other legislation

No inconsistencies with the policy objectives of other legislation have been identified.

Alternative ways of achieving policy objectives

There are no alternative ways of achieving the policy objectives.

Benefits and costs of implementation

The Regulation supports the objectives of the Act, including protecting the community and environment from harmful radiation while allowing radiation to be used safely for beneficial uses in business, industry and health. The Regulation has been modernised to reflect contemporary drafting practice and includes a range of minor improvements.

There are no direct costs associated with the making and implementation of the Regulation to replace the existing Regulation. Any costs of implementation will be met from existing budget allocations.

Consistency with fundamental legislative principles

The Regulation is broadly consistent with fundamental legislative principles in section 4 of the *Legislative Standards Act 1992*, except for the following matters outlined below.

Whether the legislation has sufficient regard to the rights and liberties of individuals (*Legislative Standards Act 1992*, s 4(2)(a))

Proportionality of offences for breaches of the Regulation

Section 4(2)(a) of the Legislative Standards Act requires that legislation have sufficient regard to rights and liberties of individuals. The Legislative Standards Act does not explicitly provide a fundamental legislative principle for offence provisions. However, a new offence must be appropriate and reasonable in light of the conduct that constitutes the offence.

The Regulation includes two offences that were included in the existing Regulation.

Section 13 of the Regulation provides that a person disposing of a container that has been used for the transport or storage of radioactive material, an apparatus that contained a sealed radioactive substance, or radiation apparatus, must first remove all radiation warning signs, or otherwise make the warning signs illegible. This offence attracts a maximum penalty of 20 penalty units or $2,757.

The Act and Regulation collectively set out the requirements for ensuring radioactive material and radiation apparatus are disposed of safely in a way that does not pose risks to people's health and the environment. Section 13 of the Regulation imposes an additional requirement to ensure that when certain containers and apparatus are safely disposed of, it is clear they do not pose an ongoing radiation hazard. If the item were disposed with warning labels still legible despite not posing a radiation hazard, it would cause unnecessary alarm and may have resourcing implications during disposal if a person is led to believe the item needs special handling to minimise exposure to a non-existent hazard.

The maximum penalty for this offence is significantly lower than the maximum penalty for unlawfully disposing of a container in section 26 of the Act (2500 penalty units), which recognises that failing to remove warning labels does not pose the same risk as releasing hazardous materials into the environment. However, leaving warning signs on containers and

apparatus undermines the process for ensuring all radiation hazards are appropriately labelled and managed to minimise impacts on health and safety and the environment.

The offence in section 13 of the Regulation is analogous to the requirement that a person must give written notice to the chief executive of the disposal of a radiation apparatus in section 27 of the Act (50 penalty units). Section 27 recognises the potential risks from disposal of an apparatus and requires notification so that a record can be maintained of radiation apparatus in Queensland. This process supports Queensland Health to identify and manage radiation hazards in accordance with the framework in the Act and Regulation.

Similarly, the requirement in section 13 of the Regulation supports this legislative framework. The maximum penalty for this offence is lower than similar offences in the Act and is appropriate to ensure containers and apparatus are correctly disposed of.

Section 60 of the Regulation applies to a person who possesses a mineral substance that is radioactive but not a radioactive substance. That is, the mineral substance does not meet the prescribed thresholds for requiring a possession license but still emits radiation. The person must ensure that another person does not receive a total effective dose of ionising radiation above the prescribed threshold from the mineral substance, or they are liable for a maximum penalty of 20 penalty units.

This offence mainly applies to occupational exposure to large quantities of naturally occurring radioactive materials, for example, gypsum or mineral sands containing the radionuclides natural thorium or natural uranium. The requirement that the person in possession of the material 'ensure' another a person is not exposed to a certain level of radiation is appropriate, as this person is best placed to monitor radiation exposure and put safety measures in place to protect against unnecessary and harmful exposure to radiation. This is consistent with the obligations on possession licensees under the Act, who are required to ensure the health and safety of persons are not adversely affected by exposure to radiation while carrying out a radiation practice.

The maximum penalty for this offence is significantly lower than the maximum penalty for exposing a person to radiation from a radiation source in section 42 of the Act (500 penalty units). This is appropriate and consistent with the overall framework in the Act and Regulation, which regulates radiation sources more stringently than radioactive materials to ensure controls are proportionate to the risks associated with particular materials. However, radioactive materials still pose a risk to a person's health, particularly where there is prolonged exposure to the material or inadequate safety measures. The maximum penalty is appropriate given the potential health risks that can result from exposing a person to dangerous levels of ionising radiation.

Whether the legislation has sufficient regard to the institution of Parliament (*Legislative Standards Act 1992*, s 4(2)(b))

Section 4(5)(e) of the Legislative Standards Act states that whether subordinate legislation has sufficient regard to the institution of Parliament depends on whether the subordinate legislation allows for sub-delegation of a power delegated by an Act only in appropriate cases and to appropriate persons and if authorised by an Act.

The Regulation contains a number of provisions that incorporate external documents or that delegate administrative powers to the chief executive. These provisions may potentially impact on the fundamental legislative principle that legislation must have sufficient regard to the institution of Parliament.

Incorporation of external documents

Reference to external documents in the Regulation is considered justified noting the detailed, technical and scientific nature of the matters contained in the external documents, and the flexibility this provides the scheme to remain up to date with current practices and requirements. If the matters referred to in external documents were contained in the Act or the Regulation, they would regularly be out of date and not reflect changing standards, practices, substances and activities.

Australian Radiation Protection and Nuclear Safety Agency

Sections 51, 70 and schedule 9 of the Regulation refer to Codes of Practice published by ARPANSA as follows:

- *Code for Radiation Protection in Planned Exposure Situations (2020)*
- *Code of Practice for Radiation Protection in Dentistry (2005)*
- *Code of Practice for the Exposure of Humans to Ionizing Radiation for Research Purposes (2005)*
- *Code of Practice for Portable Density/Moisture Gauges Containing Radioactive Sources (2004)*
- *Recommendations for the Discharge of Patients Undergoing Treatment with Radioactive Substances (2002)*
- *Code for Radiation Protection in Medical Exposure (2019)*
- *Code of Practice for Safe Use of Fixed Radiation Gauges (2007)*
- *Code of Practice for the Security of Radiation Sources (2019)*
- *Code of Practice for Radiation Protection in Veterinary Medicine (2009)*
- *Code of Practice for Radiation Protection in the Application of Ionizing Radiation by Chiropractors (2009)*
- *Code for the Safe Transport of Radioactive Material (2019)*
- *Code of Practice for the Security of Radioactive Sources (2019).*

ARPANSA is a statutory agency established under the *Australian Radiation Protection and Nuclear Safety Act 1998* (Cth) to:

- promote uniformity of radiation protection and nuclear safety policy and practices across Australia;
- to provide advice on radiation protection, nuclear safety and related issues; and
- undertake research and provide services relating to radiation protection, nuclear safety and medical exposures to radiation;
- other functions relating to radiation and nuclear safety.

The *Australian Radiation Protection and Nuclear Safety Act 1998* (Cth) also establishes the Radiation Health Committee (RHC), comprised of radiation control officers from each jurisdiction, independent experts and representatives from public interest groups. The RHC has been integral in the development of standards, codes and policies to promote uniformity between jurisdictions about radiation safety standards which are published by ARPANSA.

These Codes of Practice are freely available and readily accessible on the ARPANSA website. Compliance with the requirements outlined in the codes of practice is a long-standing obligation and the remake of the Regulation does not introduce any additional or new obligations on licence holders or other persons or businesses.

These Codes of Practice are detailed and technical in nature and apply to the specific field of radiation safety, justifying the need to prescribe the Codes of Practice rather than seeking to capture the detailed requirements in the Regulation. Therefore, it is considered that referencing and deferring to these Codes of Practice is appropriate in the circumstances.

Australian/New Zealand Standards

The Regulation incorporates Australian/New Zealand Standards as follows:

- Sections 6, 61 to 64 and 97 of the Regulation refer to the *laser standard*, which is defined in schedule 9 of the Regulation as the AS/NZS IEC 60825.1-2014 (Safety of laser products, Part 1: Equipment classification and requirements). The purposes of the laser standard include protecting people from laser radiation by classifying lasers and laser products by their degree of optical hazard and ensuring consumers are informed about the hazards of radiation from laser products through labels and instructions. By incorporating the laser standard, the Regulation requires lasers to be correctly classified and labelled in accordance with this standard.
- Sections 12 and 93 of the Regulation refer to the *TCLP*, which is defined in schedule 9 of the Regulation as the toxicity characteristics leaching procedure stated in Australian Standard AS 4439.2-1997 (Wastes, sediments and contaminated soils, Part 2: Preparation of leachates-Zero headspace procedure). A toxicity characteristics leaching procedure is a chemical analysis process used to determine whether there are hazardous elements present in a material. Sections 12 and 93 regulate the disposal of mineral substances, such as mineral sands used in abrasive blasting. By incorporating the AS 4439.2-1997 Standard, the Regulation prescribes a methodology for calculating the radionuclide concentration in a leachate for the purposes of determining whether the mineral substance may be disposed of without requiring an approval to dispose under the Act.

- Section 87 refers to Australian Standard AS 1603.2-1997 (Automatic fire detection and alarm systems, Part 2: Point type smoke detectors). This Standard sets out requirements for the design and construction of smoke detectors, including how any radioactive materials are incorporated and secured against access. By incorporating the AS 1603.2-1997 Standard, the Regulation exempts a person from requiring a possession licence for certain smoke detectors manufactured in accordance with the Standard.

Australian/New Zealand Standards are recognised and accepted industry standards that set out specifications to ensure products, services, and systems are safe, consistent, and reliable. The Standards are developed by technical experts in close consultation with industry and government and are accredited by Standards Australia and Standards New Zealand, which are the nationally recognised peak bodies for standards.

The Standards are detailed and technical and cover a range of matters relevant to ensuring radiation safety. To ensure the technical requirements in Standards keep pace with new technologies, they are regularly reviewed and updated by Standards Australia technical committees. This justifies the need to prescribe the Standards rather than seeking to capture the detail in the Regulation.

These Standards contain long-standing processes and requirements that have been incorporated in the Radiation Safety Regulation since 2000. Remaking the Regulation with reference to external Standards does not introduce any additional or new obligations on licence holders or other persons or businesses.

Therefore, it is considered that referring to these Standards is appropriate in the circumstances.

International Organization for Standardization and the International Commission on Illumination Standard

'Erythema' refers to the superficial reddening of a person's skin. Section 6 of the Regulation prescribes the erythemally effective dose as it relates to a *relevant solarium*. A relevant solarium is any solarium, other than a solarium that is owned by an individual, and not used for a business. Possession of a relevant solarium is banned. The Regulation specifies the amount of non-ionising radiation that must be emitted, or be capable of being emitted, by a solarium for it to be a relevant solarium.

The prescribed amount is an erythemally effective dose of 100 joules per square metre per hour. The erythemally effective dose is calculated by reference to the standard titled 'ISO/CIE 17166:2019—Erythema reference action spectrum and standard erythema dose', published by the International Organization for Standardization (ISO) and prepared by the International Commission on Illumination (CIE).

The ISO is an independent, non-governmental international organisation that acts as a coordinator for the development of international standards. Its membership is comprised of 165 national standards bodies, including Standards Australia and Standards New Zealand.

ISO Standards are recognised and accepted industry standards to ensure safety, consistency, and reliability of products and services by harmonising technical specifications. The Standards are developed by technical experts in close consultation with industry, government, consumers, and ISO members including Standards Australia.

For the development of some standards in the field of light and lighting, ISO has established a working relationship with the CIE, which has been recognized by the ISO Council as an international standardising body for matters relating to science, technology and art in the fields of light and lighting.

The ISO/CIE 17166:2019 provides a standardised methodology for determining whether or not an apparatus is a solarium based on its energy output to elicit erythema. This is a detailed and technical calculation specific to the scientific field of skin exposure to radiation, justifying the need to prescribe the Standard rather than seeking to capture the detail in the Regulation. Therefore, it is considered that referring to this standard is appropriate in the circumstances.

Australian Government National Terrorism Threat Advisory System

Part 5 of the Regulation specifies that a security plan or transport security plan must specify certain measures for each *threat level.* Section 28 of the Regulation specifies that the meaning of *threat level* for part 5 of the Regulation is the threat level published on the National Terrorism Threat Advisory System website. This means the determination of the threat level is decided by the Australian Government.

The Australian Government is responsible for the management of the National Terrorism Threat Advisory System. The system provides a scale of five levels to provide advice about the likelihood of an act of terrorism occurring in Australia. The National Threat Advisory System is reliant on information from Commonwealth and state law enforcement agencies, who provide details about their assessments of the potential for an act of terror to occur. The system is relied on by several government agencies across Australia in considering their agency's level of preparedness to respond to an act of terrorism.

In developing a security plan and transport security plan, it is critical that measures are included that will be implemented to address various risks to the security of a security enhanced source dependent on the level of threat. This is particularly important given the risks to public health that may arise if a radiation source is used to carry out an act of terror.

The use of a graded approach provides for appropriate and proportionate levels of security and transport measures to be implemented which are commensurate with the level of threat. If the threat level was prescribed in the Regulation, this would limit the ability for the level to be appropriately adjusted to ensure the appropriate response measures outlined in each security plan and transport security plan are engaged. Therefore, it is considered appropriate to rely on the nationally determined threat level to establish the level of information and the measures required to be included in security plans and transport security plans instead of prescribing the threat level in the Regulation.

International Commission on Radiological Protection

Section 51 of the Regulation states the definitions for Part 8, division 1 of the Regulation. The definitions for *internal effective dose* and *relevant part* refer to the series 'Occupational Intakes of Radionuclides' prepared by the International Commission on Radiological Protection (ICRP).

The ICRP is an independent organisation established to advance the science of radiological protection by providing recommendations and guidance on all aspects of protection against ionising radiation. The ICRP is comprised of 250 globally recognised experts in radiological protection science, policy and practice from more than 30 countries.

The ICRP offers its recommendations to regulatory and advisory agencies with responsibility for radiological protection. The ICRP recommendations also form the basis of the radiological protection standards, legislation and practice standards for many countries.

Relying on the ICRP's publications to determine relevant dose limits is considered appropriate to ensure that technical matters, and any changes to the international standards and best practice principles relating to the calculation of radiation dose limits, are incorporated into the calculation of dose limits for the purpose of the Regulation. Given the complex and extensive level of guidance provided by the ICRP, it is not considered appropriate to capture detail in the Regulation. Therefore, referring to the relevant documents and publications provided by the ICRP is considered to be appropriate.

National Health and Medical Research Council

Sections 12 and 93 of the Regulation refer to the Australian Drinking Water Guidelines to assist in the determination of the appropriate levels of leachate to be used in activities involving radioactive materials. *Australian Drinking Water Guidelines* is defined in schedule 9 of the Regulation as 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.

The National Health and Medical Research Council is an independent Commonwealth statutory body, which is established under the *National Health and Medical Research Council Act 1992* (Cth). The membership of the Council includes the Commonwealth Director-General of Health and the Chief Health Officers from each State, including Queensland.

The Australian Drinking Water Guidelines are developed based on the best available scientific evidence and provide a framework for good management of drinking water supplies to ensure safety at point of use. The document is freely available on the Council's website, granting users easy access to the latest version at any time.

The Guidelines specify an annual exposure dose from radioactivity in drinking water and provide a method to assess the radiological quality of water, relying on the 'dose per unit intake' methodology for each stated radionuclide.

The Guidelines are accepted nationally as the relevant standards for the treatment of drinking water across Australia. The technical and detailed nature of the document, as well as the fact that the parameters of acceptable impurities contained in the Guidelines are subject to change, makes it appropriate to refer to the Guidelines in the Regulation.

Delegation to the chief executive

Approved quality assurance programs to support the requirements for certificates of compliance

Section 8 of the Regulation allows the chief executive to approve a quality assurance program if the chief executive is satisfied that the program implements one or more radiation safety standards made by the Minister under the Act. This may be considered to infringe fundamental legislative principles as it delegates the power to make a decision about the type of compliance regime a person is required to comply with to the chief executive, rather than prescribing the requirements by regulation.

A decision by the chief executive to approve a quality assurance program does not remove the requirement for a person to obtain a certificate of compliance for an ionising radiation apparatus, used to carry out diagnostic imaging involving the irradiation of a person. The decision to approve a quality assurance program only changes the timeframe for when a person is required to obtain another certificate of compliance.

The intention is to allow the chief executive to determine whether a quality assurance program, such as a national quality assurance program for a particular type of radiation source, requires a possession licensee to comply with a set of requirements that meet or exceed Queensland's radiation safety standards, and that would result in a duplication of the obligations imposed on possession licensees. If the chief executive is satisfied such duplication of requirements exists, the chief executive may approve the quality assurance program to allow possession licensees complying with the approved program to obtain another certificate of compliance on a less frequent basis, as these compliance checks will be completed under the approved quality assurance program.

This assessment will be completed by the chief executive following an individual assessment of each quality assurance program. Persons seeking to rely on the approved quality assurance program will be required to prove they have complied with the approved quality assurance program. If the chief executive approves a quality assurance program, the chief executive must include the program is a list of approved programs published on the department's website.

Given the technical nature of the assessment to determine the suitability of the quality assurance program, it is considered appropriate the power to approve the relevant quality assurance programs be delegated to the chief executive. The delegation does not provide powers to an external agency and the requirements will remain within the control of Queensland Health. The public will be informed of the approved quality assurance programs through the list of approved programs published on Queensland Health's website.

Under the *Acts Interpretation Act 1954*, the chief executive's power to approve a quality assurance program includes the power to revoke this approval. If a quality assurance program no longer implements one or more radiation safety standards, or is otherwise no longer suitable, the program's approval will be revoked by removing it from the list of approved programs published on the department's website.

Approved training for exempting people from the requirement to hold a use licence

Section 83 of the Regulation provides that, for section 13(2)(b)(ii) of the Act, if a person is undergoing a course of training at an educational institution or other entity which is approved by the chief executive, the person is exempt from the requirement to hold a use licence. The provision is intended to allow the chief executive to approve training courses which require students to undertake practical and theoretical training involving the use of ionising or non-ionising radiation in a range of settings, and which assess the theoretical training and competency of students on completion of the training.

Operationally, the approval of a training course under section 83 of the Regulation will mean that a person undergoing the approved training will not be required to obtain a use licence to use the radiation source during their training if the person is using the source in the presence, and under the personal supervision, of a use licensee who is allowed, under the licence, to use the source to carry out a radiation practice.

The delegation of power to the chief executive to approve training courses is considered appropriate to ensure that training approved for the purposes of exempting someone from a use licence remains current. As the content of a training course may be subject to regular change by the training provider or educational institution, it is not considered appropriate to prescribe the approved courses in the Regulation because it cannot be sufficiently responsive to changes in training courses, including the introduction of suitable new training courses.

Prescribing the training courses would also require amending the Regulation to remove a course if it is no longer considered to meet the suitability requirements, during which time a person would continue to be exempt from the requirement to hold a use licence, even though the training is not considered suitable.

Allowing the chief executive to approve training courses by publication on the department's website ensures that any unsuitable courses are swiftly removed from the list of approved courses and the exemption will no longer be considered to apply. This will ensure the use of radiation for training and education remains suitable and that people undertaking these courses are being appropriately trained in the safe use of radiation.

The power granted to the chief executive will mean that the power to make decisions will not be delegated outside of Queensland Health. In addition, the powers of the chief executive are constrained to ensure that only a training program that satisfies the criteria set out in the section 83 of the Regulation is approved. These criteria require that the training covers both practical and theoretical training and that this training is to an acceptable standard.

The chief executive will publish a list of approved training on the Queensland Health website so that the public is aware of the approved training courses and can make an informed decision about what training they may wish to undertake to meet their personal circumstances. If the approved training no longer meets the criteria for approval, its approval will be revoked by removing it from the published list.

Consultation

In June 2021, a consultation draft of the Regulation and consultation paper were published on the Queensland Government's Get Involved website. Queensland Health also contacted approximately 20,000 individuals and businesses who hold licences and other authorities under the Act. The consultation process remained open for two weeks and 79 written submissions were received. Stakeholders were generally supportive of the Regulation.

The Radiation Advisory Council was consulted and supports the Regulation.

A sunset review of the existing Regulation was undertaken in accordance with *The Queensland Government Guide to Better Regulation*. The Office of Best Practice Regulation, Queensland Treasury was consulted on the sunset review and advised that Queensland Health satisfactorily met the objectives for sunset reviews.

Notes on provisions

Part 1 Preliminary

Short title

Section 1 of the Regulation provides that the short title is the *Radiation Safety Regulation 2021*.

Commencement

Section 2 of the Regulation provides that the Regulation, other than Part 17, commences on 1 September 2021. Part 17 of the Regulation will commence on 1 October 2021.

Part 17 repeals and replaces the schedule of fees in schedule 8 of the Regulation. Fees under the existing *Radiation Safety Regulation 2010* (existing Regulation) are indexed annually from 1 October. Part 17 provides for a schedule of fees that has been indexed by 1.7 per cent, in line with the Government Indexation Rate for the 2021-22 financial year.

Definitions

Section 3 of the Regulation states that the dictionary in schedule 9 of the Regulation defines particular words used in the Regulation.

Part 2 Radiation sources and sealed source apparatus

Division 1 Radioactive substances

Radioactive substance—Act, sch 2

Under the *Radiation Safety Act 1999* (Act), a radioactive substance is a subset of radioactive materials, the possession, use or transport of which requires a person to hold a licence. Schedule 2 of the Act states that a *radioactive substance* means radioactive material (whether or not it is sealed):

(a) containing more than the concentration or activity of a radionuclide prescribed under a regulation; or

(b) prescribed under a regulation to be a radioactive substance.

Section 4 of the Regulation provides that, for paragraph (b) of the definition of *radioactive substance* in the Act, the following 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.

For the purpose of section 4 of the Regulation, *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 a mineral, such as the refining, smelting or calcining of a mineral.

Division 2 Radiation apparatus

Ionising radiation apparatus—Act, sch 2, definition *radioactive apparatus*

Section 5 of the Regulation prescribes the amount of ionising radiation for the definition of *radiation apparatus* in schedule 2 of the Act. Paragraphs (a) and (b) in the definition of *radiation apparatus* relate to ionising radiation and prescribe the definition of a *radiation apparatus* as follows:

(a) an apparatus that, when energised, emits an amount of ionising radiation during a particular period higher than the amount prescribed, for the period, under a regulation; or

(b) an apparatus that would if assembled or repaired, and when energised, be capable of emitting an amount of ionising radiation during a particular period higher than the amount prescribed, for the period, under a regulation; or…

Section 5 of the Regulation prescribes that, for paragraphs (a) and (b) of the definition of *radiation apparatus*, the prescribed amount is 1 microgray per hour, measured at 10cm from any accessible surface of the apparatus. For this section, *accessible surface* of an apparatus is defined to mean a surface of the apparatus that may easily be touched.

Non-ionising radiation apparatus—Act, sch 2, definition *radioactive apparatus*

Section 6 of the Regulation prescribes the amount of non-ionising radiation for the definition of *radiation apparatus* in schedule 2 of the Act. Paragraphs (c) and (d) in the definition of *radiation apparatus* relate to non-ionising radiation and prescribe the definition of a *radiation apparatus* as follows:

(c) an apparatus, prescribed under a regulation, that when energised emits an amount of non-ionising radiation during particular period higher than the amount prescribed, for the period, under a regulation; or

(d) an apparatus, prescribed under a regulation, that would if assembled or repaired, and when energised, be capable of emitting an amount of non-ionising radiation during a particular period higher than the amount prescribed, for the period, under a regulation.

Section 6 of the Regulation prescribes the amount of non-ionising radiation that must be emitted, or be capable of being emitted, by a laser or a relevant solarium for these apparatus to be a radiation apparatus:

(a) For a laser – the amount is 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 – the amount is an erythemally effective dose of 100 joules per square metre per hour.

Prescribing the amount of non-ionising radiation for a laser as the accessibly emission limit for a Class 1 laser will ensure that all lasers above Class 1 are captured as radiation apparatus. The effect of this is that all lasers must be classified and labelled in accordance with the laser standard. The laser standard is defined in schedule 9 of the Regulation as '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'.

Section 6 of the Regulation also provides definitions for *CIE Standard* and *erythemally effective dose*.

CIE document is defined to mean the standard called '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. This document provides a standardised methodology for determining whether something is a solarium or not based on its energy output to elicit erythema in a person's skin.

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

Security enhanced source—Act, sch 2

A security enhanced source is a radiation source that is considered to have an elevated security risk and is more tightly regulated under the Act than other radiation sources.

Schedule 2 of the Act states that a *security enhanced source* means a radiation source, or an aggregation of radiation sources, prescribed by regulation to be a security enhanced source.

Section 7 of the Regulation prescribes each of the following radiation sources as a security enhanced source:

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

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

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 of the Regulation, for the activity ratio worked out using the formula:

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

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

AR means the activity ratio.

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

The activity ratio of an aggregation of two or more sealed radioactive substances is the sum of the activity ratios of each of the sealed radioactive substances in the aggregation worked out using the above formula.

Division 4 Certificates of compliance

Periods within which certificates of compliance must be obtained—Act, s 18

Section 18 of the Act imposes obligations on possession licence holders to ensure that a radiation source, or premises where a radiation practice is carried out using the radiation source, comply with a relevant radiation safety standard. A *radiation safety standard* is made by the Minister under section 16 of the Act.

Section 18(2) of the Act applies if there is a relevant radiation safety standard for the radiation source. A possession licensee commits an offence if they allow a radiation source to be used to carry out a radiation practice unless, within the period prescribed under a regulation before the day the source is used, the licensee has obtained a certificate of compliance for the source.

Sections 18(4) and (5) of the Act apply if there is a relevant radiation safety standard for premises at which a radiation source is used or stored. A possession licensee commits an offence if they allow a radiation source used to carry out a radiation practice at the premises, or to be stored at the premises, unless the licensee has first obtained a certificate of compliance for the premises within the period prescribed under a regulation.

Section 8 of the Regulation prescribes the relevant periods within which a possession licence holder must obtain a certificate of compliance for a radiation apparatus or premises.

Some possession licence holders participate in quality assurance schemes and some of these schemes set requirements that meet or exceed the relevant radiation standards.

Section 8 of the Regulation prescribes that, if an apparatus is an ionising radiation apparatus used to carry out diagnostic imaging involving the irradiation of a person and the apparatus is the subject of a quality assurance program approved by the chief executive, the prescribed period is 10 years. The chief executive may, by notice published on the department's website, approve a quality assurance program, but only if satisfied the program implements one or more radiation safety standards.

It is important to note that under section 8 of the Regulation, the certificate of compliance is only a certification that an apparatus or premises is compliant at the time it is certified (that is, at a point in time) and the certification does not continue for a period of time. A radiation apparatus or premises may be considered within the prescribed 1, 3, 5 or 10-year period and found to be no longer compliant.

Part 3 Disposal

Division 1 Disposal of radioactive material

Disposal of radioactive material into the air or water, other than into sewerage system—Act, s 26

Section 26 of the Act regulates the disposal of radioactive material, regardless of whether or not the material is a radiation source requiring a licence.

Section 26(1)(a) states that a person must not dispose of radioactive material, unless the concentration or activity of a radionuclide in the material is not more than the maximum concentration or activity prescribed by regulation. Section 26(2) provides that a regulation may provide for the point of disposal at which the concentration or activity of the radionuclide in the material is to be decided.

Section 9(1) of the Regulation prescribes, for section 26(1)(a) of the Act, the maximum concentration for disposal of radioactive material.

Where the radioactive material contains only one of the radionuclides mentioned in schedule 3, column 1 of the Regulation, the maximum concentration prescribed is:

(a) for disposal into the air – the concentration stated in column 2 of the schedule shown opposite the radionuclide; or

(b) for disposal into water – the concentration stated in column 3 of the schedule opposite the radionuclide.

Section 9(1)(c) also states that where the radioactive material contains more than one of the radionuclides mentioned in schedule 3, column 1 of the Regulation and is to be disposed of into the air or water, the prescribed maximum concentration is a concentration resulting in a disposal factor for the material of 1.

However, these maximum concentrations do not apply to the disposal of radioactive material into a sewerage system. Disposal into a sewerage system is dealt with under section 10 of the Regulation.

This prescribes thresholds below which it is considered safe to dispose of certain radioactive material into air, water or sewerage without any causing harm to people or the environment. Disposing of radioactive materials that have concentrations or activities above these prescribed thresholds would represent a risk of harm to both people and the environment.

Section 9(3) of the Regulation states that subsection (4) applies to the disposal of radioactive material mentioned in subsection 9(1)(b) or 9(1)(c) of the Regulation that is wastewater resulting from reverse osmosis at a water treatment facility into water.

Section 9(4) of the Regulation prescribes that, 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.

The effect of section 9(4) is to clarify where wastewater resulting from reverse osmosis at a water treatment facility is considered to have been released into the environment. If a point of disposal were not prescribed for this wastewater, engineered strategies to dilute the waste prior to its release into the environment would be difficult to reliably achieve. Specifying the point of disposal provides operators of advanced water treatment facilities clarity on the performance criteria that must be met.

In this section, *disposal factor*, for radioactive material containing more than one of the radionuclides mentioned in schedule 3, column 1 means the total of the amounts worked out for each of the radionuclides using the 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 of the Regulation opposite the radionuclide; or

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

Disposal of radioactive material into the sewerage system—Act, s 26

Section 10 of the Regulation prescribes, for section 26(1)(a) of the Act, the following maximum concentrations:

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

(b) for disposal into a sewerage system of a radioactive material containing more than one of the radionuclides mentioned in schedule 3, column 1 – the concentration resulting in a disposal factor for the material of 1.

Section 10 of the Regulation also prescribes, 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.

In this section, *disposal factor*, for a radioactive material containing more than one of the radionuclides mentioned in schedule 3, column 1, means the total of the amounts worked out for each of the radionuclides using the 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, measures in Bq per cubic metre.

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

Disposal of radioactive material, other than into the air, water or sewerage system—Act, s 26

Section 11 of the Regulation prescribes, for section 26(1)(a) of the Act, the following maximum concentrations:

(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 concentration 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 a radioactive material containing more than 1 of the radionuclides mentioned in schedule 1, column 1 – the concentration resulting in a disposal factor for the material of 1.

However, this section does not apply to a radioactive material that is a mineral substance mentioned in section 12(1) or (3). Disposal of radioactive materials that are mineral substances is dealt with in section 12 of the Regulation.

In this section, *disposal factor,* for a radioactive material containing more than one of the radionuclides mentioned in schedule 1, means the total of the amounts worked out for each of the radionuclides using the 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 gram.

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

Disposal of particular mineral substances, other than into the air, water or sewerage system—Act, s 26

Section 12(1) of the Regulation states that section 12(2) of the Regulation applies in relation to the disposal, other than into the air, water or a sewerage system, of a radioactive material that is a mineral substance that:

(a) contains only one of the radionuclides mentioned in schedule 1, column 1 of the Regulation; 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 the radionuclide multiplied by 10.

Section 12(2) of the Regulation prescribes, for section 26(1)(a) of the Act, the maximum concentration for the disposal of the mineral substance is the concentration worked out by multiplying the concentration stated in schedule 1, column 2 of the Regulation opposite the radionuclide by 10.

Section 12(3) of the Regulation states that section 12(4) of the Regulation 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 one of the radionuclides mentioned in schedule 1, column 1 of the Regulation; 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.

Section 12(4) of the Regulation prescribes, for section 26(1) of the Act, the maximum concentration for the disposal of the mineral substance is the concentration resulting in a disposal factor for the mineral substance of 1.

In this section, *disposal factor*, or a mineral substance mentioned in section 12(3) and containing more than one of the radionuclides mentioned in schedule 1, column 1, means the total of the amounts worked out for each of the radionuclides using the formula:

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

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

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

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

TCLP is defined in schedule 9 of the Regulation as the toxicity characteristics leaching procedure stated in AS 4439.2-1997 (Wastes, sediments and contaminated soils, Part 2: Preparation of leachates-Zero headspace procedure).

Division 2 Requirements for disposal of particular apparatus and containers

Removal of radiation warning signs

Section 13 of the Regulation states that the 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.

Section 13(2) of the Regulation states that a person must, immediately before the disposal, remove or make illegible all radiation warning signs attached to the container or apparatus. A failure to comply with this requirement is an offence which carries a maximum penalty of 20 penalty units.

In this section, a *radiation warning sign* attached to a container or apparatus is defined to mean 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 Radiation safety and protection measures for all radiation practices

Methods and procedures—Act, s 28

Section 28 of the Act states that a *radiation safety and protection plan*, for a radiation practice, is a plan for the practice for which a possession licence is allowed to possess a radiation source under the licence. Section 28(2) states that the plan must state various matters, including particulars and an assessment of all radiation hazards specific to the practices that the possession licensee knows exist, and the radiation safety and protection measures to deal with the hazards. Section 28(6) of the Act states that *radiation safety and protection measures* are measures, prescribed under a regulation, for preventing or minimising health risks to any person arising from exposure to radiation from the carrying out of a radiation practice.

Section 14 of the Regulation prescribes *radiation safety and protection measures*. Each of the following measures is prescribed:

(a) safe handling procedures to be following 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 any ancillary imaging equipment used in the connection with the use of 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.

In this section, *remediation procedures*, for an accident, are defined to mean procedures designed to minimise a radiation hazard arising from the accident.

Control of access to, and use of, radiation source—Act, s 28

Section 15 of the Regulation prescribes that a radiation safety and protection measure is the control of access to, and use of, the radiation source. The measure 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.

Supply of personal monitoring devices—Act, s 28

Section 16 of the Regulation prescribes that a radiation safety and protection measure the is the supply by a possession licensee of personal monitoring device to be worn by persons while involved in carrying out the radiation practice. The measure must include 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 person who is to perform the assessment mentioned in paragraph (d), described by reference to the abilities of the person to perform the task.

Supply of particular equipment—Act, s 28

Section 17 of the Regulation prescribes that a *radiation safety and protection measure* is the supply by the possession licensee of safety devices or personal protective equipment for use by persons while involved in carrying out the radiation practice.

The measure must include the following details:

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

  (i) the persons who are to use the devices, described by reference to the nature of their involvement in carrying out the practice; and

  (ii) the devices to be supplied; and

  (iii) how, and when, the devices are to be used by the persons; and

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

  (v) the expected outcome of each check; and

  (vi) the person who is to check the devices, described by reference to the abilities of the person to perform the task; and

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

  (viii) how the actual outcomes of the checks of the devices to be recorded; and

  (ix) 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 described by reference to the nature of their involvement in carrying out the radiation practice; 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 is 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 outcomes 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.

For this section, a *safety device* is defined to mean 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 does not include personal protective equipment.

Record in register—Act, s 28

Section 18 of the Regulation prescribes *radiation safety and protection measures* as the following measures:

(a) the arrangement for:

(i) keeping, under the possession licensee's control, a register for recording particulars about the use of the radiation source to carry out 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.

In this section, *relevant details*, about the use of a radiation source to carry out a radiation practice, is defined to mean 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 2 Radiation safety and protection measures for particular radiation practices

Radiation alarms for radiation practices involving ionising radiation sources—Act, s 28

Section 19 of the Regulation states that the section applies in relation to a radiation practice involving the use of an ionising radiation source. For these radiation practices, the Regulation prescribes *radiation safety and protection measures* as the following measures:

(a) supply, by the possession licensee, 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.

The measure about the supply of personal radiation alarms must include the following details:

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

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

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

(d) the 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 alarms are to be checked for sensitivity, accuracy, range and energy response;

(f) the person who is to check the sensitivity, accuracy, range and energy response of the alarms, described by reference to the abilities of the persons to perform the task.

The measure about a personal radiation alarm that is repaired or is suspected to have been damaged must include details of the person who is to check the sensitivity, accuracy, range and energy response of the personal radiation alarms, described by reference to the abilities of the person to perform the task.

For the purpose of this section, *personal radiation alarm* is defined to mean a device that produces a visual or audible signal when—

(a) a radiation dose received by the device is equal to or 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.

Radiation monitoring equipment for particular radiation practices involving ionising radiation sources—Act, s 28

Section 20 of the Regulation states that the 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

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

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

For these radiation practices, the Regulation prescribes *radiation safety and protection measures* as the following measures:

(a) supply by the possession licensee 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.

The measures about supply by the possession licensee of radiation monitoring equipment must include the following details:

(a) how the equipment is to be used;

(b) the operational checks to be undertaken by the persons before each use of the equipment to ensure it is working correctly.

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

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

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

(f) the person who is to check the sensitivity, accuracy, range and energy response of the equipment, described by reference to the abilities of the person to perform the task.

The measure prescribed about radiation monitoring equipment that is repaired or is suspected to have been damaged must include details of the person who is to check the sensitivity, accuracy, range and energy response of the personal radiation alarms, described by reference to the abilities of the person to perform the task.

For the purpose of 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.

Radiation practices involving use or storage of unsealed radioactive substances—Act, s 28

Section 21 of the Regulation states the section applies in relation to a radiation practice that involves the use or storage of unsealed radioactive substances at premises. For these radiation practices, the Regulation prescribes *radiation safety and protection measures* as the following measures:

(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.

The measure about monitoring the premises, and person and things at the premises, to detect or minimise contamination of the premises, persons or things must include 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.

The measure about the safe storage at the premises of contaminated cleanable things before removal from the premises for cleaning must include 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.

The measure about the safe storage at the premises of radioactive waste produced in carrying out the radiation practice before its disposal must include 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.

The measure about minimising the amount of radioactive waste produced in carrying out the radiation practice must include details about how the amount of the waste radioactive material produced in carrying out the radiation practice is to be minimised.

For the purpose of this section:

- *cleanable thing*, at premises, is defined to mean a thing that, to be cleaned, needs to be removed from the premises; and
- *contamination*, of a person, premises or thing, is defined to mean the lodgement, attachment or incorporation of radioactive material on, to or in the person, premises or thing.

Diagnostic, therapeutic or cosmetic procedure involving irradiation of person—Act, s 28

Section 22 of the Regulation states the 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*). For these radiation practices, the Regulation prescribes *radiation safety and protection measures* as the following measures:

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

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

(c) 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;

(d) the arrangement for ensuring the use licensee (who either uses the radiation source or supervises another person to carry out the procedure) records 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.

The measure prescribed about the supply of personal protective equipment to be worn by the relevant person while the procedure is carried out must include details of the personal protective equipment to be supplied.

The measure prescribed about the procedures to ensure the relevant person wears the personal protective equipment while the procedure is carried out must include details of the procedures.

Marking of images from diagnostic or therapeutic procedure—Act, s 28

Section 23 of the Regulation states the 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.

For these radiation practices, the measure prescribed is that the relevant information be permanently marked on each medical images produced during the diagnostic or therapeutic procedure, and includes the details of the way the marking is to be made.

For the purpose of this section:

- *nuclear medicine image* is defined to mean 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* is defined to mean:
  - (a) for a medical image that 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* is defined to mean:
  - (a) for a medical image that is a radiograph with a surface area of less than 45cm2 – 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.

Diagnostic or therapeutic procedure involving irradiation of person—Act, s 28

Section 24 of the Regulation states the 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. For these radiation practices, section 24 of the Regulation prescribes the measure as the provision of guidance to the treated person about the duration of the procedure.

Radiation practices resulting in production of radionuclide radon-222—Act, s 28

Section 25 of the Regulation applies in relation to a radiation practice if the radiation practice results in the production of the radionuclide radon-222. The *radiation safety and protection measure* prescribed is ventilation of the premises in which the radiation practice is being carried out in a way that ensures a person is not exposed to a concentration of 200Bq per cubic meter or more of the radionuclide radon-222.

Division 3 Miscellaneous

Monitoring or assessment interval—Act, s 28

Section 26 of the Regulation states that 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. Section 37(2)(f) of the Act provides that the functions of a radiation safety officer include identifying whether the relevant radiation safety standard for the radiation source, or premises at which the radiation practice is being carried out, is being complied with.

Supply of personal monitoring devices—Act, s 28

Section 28(3) of the Act states that if a person, other than a person being irradiated as part of a diagnostic or therapeutic procedure, may receive from the carrying out of the practice a radiation dose higher than the radiation dose limit prescribed by regulation, the radiation safety and protection plan must provide for the supply of a personal monitoring device to the person and the assessment of the device.

Section 27 of the Regulation states that for section 28(3) of the Act, the radiation dose limit for ionising radiation is a total effective dose of 1 millisievert (mSv) in any 12-month period.

Part 5 Security requirements for security enhanced sources

Division 1 Preliminary

Meaning of *threat level*

Section 28 of the Regulation states a *threat level* is an indicator of the likelihood and consequences of a person acquiring a security enhanced source for a malicious purpose. The *threat level* at a particular time is the threat level published by the National Terrorism Threat Advisory System website. The threat level is ordinarily described as one of the following five threat levels:

(1) certain

(2) expected

(3) probable

(4) possible

(5) not expected.

The Australian Government established the National Terrorism Threat Advisory System to inform the public about the likelihood of an act of terrorism occurring in Australia and enable authorities, businesses and individuals to take appropriate measures for safety and security, and enable government agencies to respond appropriately with national threat preparedness and response planning.

Under the Act, certain persons must prepare a security plan or a transport security plan in relation to a security enhanced source. Part 5 of the Regulation prescribes various matters that must be included in the security plan or transport security plan. The prescribed details must be provided for each threat level as defined in this section.

This is necessary as possession licensees and persons transporting security enhanced sources must be able to promptly respond to a change in the threat level which indicates an increase the likelihood that a person may seek to acquire a radiation source for malicious use. Should there be an increase in the threat level, all persons responsible for security enhanced sources will be equipped to adapt their operational or transport arrangements as soon as advice about a change in the threat level is provided to them.

Section 34A of the Act states that a security plan is a plan for the security of a security enhanced source that a possession licensee is allowed to possess under the licence. Section 34(2) prescribes the various matters that a security plan must include such as particulars of the security enhanced source the licensee is allowed to possess and the security measures for the source. *Security measures* are defined as measures, prescribed by regulation, for ensuring the security of a security enhanced source. The measures are prescribed in sections 29 to 37 of the Regulation.

Section 34H of the Act states that a transport security plan is a plan for the security of a radioactive substance that is a security enhanced source during the transport of the source. Section 34H(2) of the Act states that the plan must state various matters, including particulars of the security enhanced source to be transported and the transport security measures for the source. *Transport security measures* are defined as measures, prescribed by regulation, for ensuring the security of a security enhanced source during its transport. The measures are prescribed in sections 38 to 46 of the Regulation.

Division 2 Security plans

Storage and use of security enhanced source—Act, s 34A

Section 29 of the Regulation prescribes, for the definition of *security measures* in section 34A(5) of the Act, that a measure is the secure storage and use of the security enhanced source.

The measure includes the following details:

(a) the location of the security enhanced source in the building or facility in which the source is to be:

  (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 to be:

  (i) stored; or

  (ii) used in carrying out the radiation practice.

Control of access to, or use of, security enhanced source—Act, s 34A

Section 30 of the Regulation prescribes, for the definition of *security measures* in section 34A(5) of the Act, that a measure is the control of access to, or use of, the security enhanced source.

The measure 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 supervising persons who may be allowed access to the security enhanced source;

(d) the physical barriers to be used to deter and delay unauthorised access to the security enhanced source, such as 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.

Security equipment—Act, s 34A

Section 31 of the Regulation prescribes, for the definition of *security measures* in section 34A(5) of the Act, that measures are:

(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.

The measure about the installation and use of security equipment to protect the security enhanced source 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.

The measure about checking the security equipment for wear and tear or correct operation includes 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 of the equipment;

(b) the expected outcome of each check;

(c) the person who is 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;

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

(f) 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;

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

Security persons and surveillance—Act, s 34A

Section 32 of the Regulation prescribes, for the definition of *security measures* in section 34A(5) of the Act, the measure is the use of security persons and surveillance to guard the security enhanced source. A security person may include a security officer, a hospital security officer, or a protective security officer.

The measure includes the following details for each threat level:

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

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

Confirmation of source—Act, s 34A

Section 33 of the Regulation prescribes, for the definition of *security measures* in section 34A(5) of the Act, the measure is confirming the presence of the security enhanced source.

The measure 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.

Security-related information—Act, s 34A

Section 34 of the Regulation prescribes, for the definition of *security measures* in section 34A(5) of the Act, the measures are:

(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.

For the purpose of these measures, s*ecurity-related information*, for a security enhanced source, is defined to mean information about the measures, systems infrastructure and other things used for each threat level to secure the security enhanced source, such as information related to a particular security system, pin codes, passwords or the location of keys.

The measure about maintaining the security of security-related information in relation to the security enhanced source, include details, for each threat level, of how the possession licensee proposes to ensure the security of the security-related information for the security enhanced source, including:

(a) who is to be 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 to be allowed access to the information; and

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

The measure about maintaining the security of inventories and documents in relation to the management of the security enhanced source, include details, for each threat level, of how the possession license proposes to record and maintain inventories and documents related to the management of the security enhanced source.

Security response arrangements—Act, s 34A

Section 35 of the Regulation prescribes, for the definition of *security measures* in section 34A(5) of the Act, that measures are:

(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.

The measure about the arrangements and alternative arrangements developed for responding to a security breach include the following details for each threat level:

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

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

The measure about checking the arrangements and alternative arrangements developed for responding to a security breach include the following details for each type of security breach 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 are 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.

Security briefings—Act, s 34A

Section 36 of the Regulation prescribes, for the definition of *security measures* in section 34A(5) of the Act, the measures is providing security briefings to staff.

The measure include the following details for each threat level:

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

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

Change of threat level—Act, s 34A

Section 37 of the Regulation prescribes, for the definition of *security measures* in section 34A(5) of the Act, the measure is updating security arrangements to adapt to the change in the threat level.

The measure include the following details for each threat level:

(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

Transportation procedures—Act, s 34H

Section 38 of the Regulation prescribes, for the definition of *transport security measures* in section 34H(5) of the Act, that measures are:

(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.

The measure about procedures in relation to the transportation of the security enhanced source must include 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 principle 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.

The measure about the notification of relevant authorities about the transportation of the security enhanced source must include the following details for each threat level:

(a) The relevant contact details for each of the following persons:

  (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 persons mentioned in paragraph (a) are to communicate about the transport of the security enhanced source;

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

  (i) the authority responsible for regulating the security enhanced source;

  (ii) the police service.

For these measures, *relevant contact details*, for a person, are defined to include:

(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.

Control of access to security enhanced source during transport—Act, s 34H

Section 39 of the Regulation prescribes, for the definition of *transport security measures* in section 34H(5) of the Act, the measure is control of access to the security enhanced source during transport.

The measure must include the following details for each threat level:

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

(b) the arrangements for supervising 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.

Transport security equipment—Act, s 34H

Section 40 of the Regulation prescribes, for the definition of *transport security measures* in section 34H(5) of the Act, that measures are:

(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.

The measure about the use of security-related equipment to protect the security enhanced source during transport must include the following details of the security-related equipment to be used for each threat level:

(a) the type of equipment to be used, such as bolts, containers, or vehicle-tracking equipment;

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

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

(d) how the actual outcome of the checks of the equipment is to be recorded.

(e) if the actual outcome of a check of the equipment is different from the expected outcome – the procedure to be followed to fix the deficiency.

The measure about checking the security equipment for wear and tear or correct operation must include the following details for each threat level:

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

(b) the expected outcome of each check;

(c) the person who is 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 checks of the equipment is to be recorded;

(f) 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.

Transport security persons—Act, s 34H

Section 41 of the Regulation prescribes, for the definition of *transport security measures* in section 34H(5) of the Act, the measure is the use of transport security persons, such as a security officer or police officer, to guard the security enhanced source during transport.

The measure must include the following details for each threat level:

(a) the duties and responsibilities to be 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 to undergo to undertake the person's transport-related activities with the security enhanced source.

Confirmation of source—Act, s 34H

Section 42 of the Regulation prescribes, for the definition of *transport security measures* in section 34H(5) of the Act, the measure is confirming the presence or quantity of the security enhanced source during transport.

The measure must include 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.

Security-related information—Act, s 34H

Section 43 of the Regulation prescribes, for the definition of *transport security measures* in section 34H(5) of the Act, the measure is maintaining the security of security-related information for the transport of the security enhanced source.

The measure must include details, for each threat level, of how the holder of the transport security plan proposes to ensure the security related information is to be security, including:

(a) who is to be 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 to be allowed access to the information; and

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

For the purpose of this section, *security-related information*, in relation to the transport of security enhanced source, is defined to mean information about the measures, systems, infrastructure and other things used for each threat level to secure the source during transport, such as information related to travel routes, pin codes, passwords or location of keys.

Transport security response arrangements—Act, s 34H

Section 44 of the Regulation prescribes, for the definition of *transport security measures* in section 34H(5) of the Act, that measures are:

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

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

(c) checking the security response arrangements and the alternative arrangements.

The measure about the security response arrangements must include the following details for each threat level:

(a) the security response arrangements for each type of security breach;

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

The measure about the alternative arrangements must include the following details for each threat level:

(a) the alternative arrangements for each type of security breach;

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

The measure about checking the security response arrangements must include the following details for each threat level:

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

(b) the expected outcome of each check;

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

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

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

Transport security briefings—Act, s 34H

Section 45 of the Regulation prescribes, for the definition of *transport security measures* in section 34H of the Act, the measure is providing security awareness briefings for persons involved in transporting the security enhanced source.

The measure must include the following 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 alternative arrangements.

Change of threat level—Act, s 34H

Section 46 of the Regulation prescribes, for the definition of *transport security measures* in section 34H of the Act, the measure is updating security arrangements to adapt to a change in the threat level.

The measure must include 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 ability to perform the task.

Other information—Act, s 34H

Section 47 of the Regulation prescribes, for section 34H(2)(l) of the Act, that a transport security plan must state the purpose or reason for which the security enhanced source is being transported.

Part 6 Radiation safety officers

Qualifications—Act, s 36

Section 36(1) of the Act states that only a qualified person who holds a radiation safety officer certificate relevant to a radiation practice may be appointed as a radiation safety officer for a radiation practice. Section 36(2) of the Act states that a possession licensee who is a qualified person may appoint himself or herself as a radiation safety officer certificate for a radiation practice. Schedule 2 of the Act defines a *qualified person* as a person who holds a radiation safety officer certificate. The effect of sections 36(1) and (2) of the Act is that a possession licensee who holds a radiation safety officer certificate can appoint themselves as a radiation safety officer for their practice.

Section 36(3) of the Act states that a possession licensee who is not a qualified person may appoint himself or herself as a radiation safety officer for a radiation practice if the licensee is the holder of a qualification, relevant to the practice, prescribed under a regulation.

Section 48 of the Regulation states that for section 36(3) of the Act, the qualification stated in schedule 4, column 2 is prescribed for the radiation practice mentioned opposite in column 1 of the schedule.

Functions—Act, s 37

Section 37 of the Act require a possession licensee's approved radiation safety and protection plan for the practice to state the functions for a radiation safety officer appointed by the licensee for the practice. These stated functions must include to provide, or arrange for the provision of, training about radiation hazards and safe working practices to persons carrying out the practice, the licensee's employees and other persons working for the licensee who may be exposed to radiation emitted from the source, and other persons prescribed by regulation.

Section 49 of the Regulation states that the other persons under section 37(2)(b)(iii) of the Act are:

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

Part 7 Radiation monitoring

Information in personal monitoring record—Act, s 38

Section 38(4) of the Act requires a possession licensee who provides a *monitored person* with a personal monitoring device, as required by the licensee's approved radiation safety and protection plan, to keep an up to date record for the monitored person, including the results of all the assessments of the personal monitoring device and any other information prescribed by regulation.

Section 50 of the Regulation states that 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) if the monitored person stopped being monitored for any radiation doses received in relation to the carrying out of the radiation practice - the date the monitored person stopped being monitored;

(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

Definitions for division

Section 51 of the Regulation defines terms used in Part 8, division 1 of the Regulation. Among other terms, the following terms are defined:

- *Occupational exposure* is defined as 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* is defined as the exposure of the person to ionising radiation, other than exposure that is health-related exposure, natural background exposure or occupational exposure.

Subdivision 2 Occupational exposure

Exposure of particular persons—Act, s 37

Section 37 of the Act states that a possession licensee's approved radiation safety and protection plan must state the functions of a radiation safety officer appointed by the licensee. Section 37(2)(c) states that these functions must include providing, or arranging for the provision of, training to the persons mentioned in paragraph 37(2)(b) about precautions that need to be taken to ensure radiation doses received by the persons and other persons from a radiation source are, for ionising radiation, below the radiation dose limit prescribed by regulation, and as low as reasonably achievable, and for non-ionising radiation are below the radiation dose limit prescribed under a regulation and minimised as far as practicable.

Section 52 of the Regulation applies if the radiation source for the radiation practice is an ionising radiation source. Section 53 prescribes, for section 37(2)(c)(i) of the Act, the radiation dose limits for the occupational exposure of a person to ionising radiation from the radiation source. The prescribed radiation dose limits are:

(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 of the Regulation;

(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 of the Regulation;

(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 of the Regulation.

Section 52 also states that, for the purposes of the prescribed radiation dose limits, a reference to a pregnant woman is a reference to a woman whose pregnancy the person carrying out the radiation practice is aware, or ought to reasonably be aware.

Exposure of particular persons—Act, s 41

Section 41(5) of the Act states that a use licensee must not, in carrying out a diagnostic or therapeutic procedure with a radiation source, allow another person involved in carrying out the procedure, other than the person being irradiated (the *treated person*), to receive a radiation dose higher than the radiation dose limit prescribed by regulation. Failure to comply with this requirement is an offence with a maximum penalty of 200 penalty units.

Section 53 of the Regulation applies if the radiation source for the diagnostic or therapeutic procedure mentioned in section 41(5) of the Act is an ionising radiation source. Section 53 prescribes, for the purpose of section 41 of the Act, the radiation dose limits for the occupational exposure of a person to ionising radiation from the radiation source.

The prescribed radiation dose limits are:

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

(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 of the Regulation;

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

For this section, 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 to reasonably be aware.

Exposure of particular persons—Act, s 42

Section 42(2) of the Act states that a person, in carrying out a radiation practice with a radiation source, must not cause another person to receive a radiation dose higher than the radiation dose limit prescribed by regulation. Failure to comply with this requirement is an offence with a maximum penalty of 500 penalty units.

Section 54 of the Regulation applies if the radiation source for the radiation practice mentioned in section 42(2) of the Act is an ionising radiation source. Section 54 of the Regulation prescribes, for the purpose of section 42(2) of the Act, the radiation dose limits for the occupational exposure of a person to ionising radiation from the radiation source.

The prescribed radiation dose limits are:

(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 of the Regulation;

(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 of the Regulation;

(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 of the Regulation.

For the purpose of this section, 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 to reasonably be aware.

Radiation hazards—Act, ss 127, 132 and 133

Section 127 of the Act states that an inspector may seize a thing where the inspector reasonably believes the thing is the cause of, or is likely to cause, a radiation hazard at a place, and the radiation hazard cannot be managed in a way to ensure no person will receive a radiation dose from the thing higher than the radiation dose limit prescribed by regulation.

Section 132 requires the inspector to give a receipt for the seized thing to the person from whom it was seized. If the thing was seized under section 127, section 132(4)(b) requires the inspector to state on the receipt that the thing will be forfeited to the State if the owner does not, in the period of 90 days from the seizure, demonstrate to the satisfaction of an inspector that the radiation hazard can be managed in a way that ensures that no person will receive a radiation dose from the thing higher than the radiation dose prescribed by regulation.

Section 133(2)(c) of the Act states that where a person fails to comply with the requirement under section 132(4)(b) of the Act, the thing will be forfeited to the State.

Section 55 of the Regulation applies if the thing mentioned in section 127(1)(a), 132(4)(b) or 133(2)(b) of the Act is an ionising radiation source used to carry out a radiation practice.

Section 55 of the Regulation prescribes, for the purpose of sections 127(1)(b), 132(4)(b) and 133(2)(c) of the Act, the radiation dose limits for the occupational exposure of a person to ionising radiation from the radiation source.

The prescribed radiation dose limits are:

(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 of the Regulation;

(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 of the Regulation;

(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 of the Regulation.

For the purpose of this section, a reference to a pregnant woman is a reference to a woman of whose pregnancy the inspector is aware or ought to reasonably be aware.

Subdivision 3 Public exposure

Exposure of particular persons—Act, ss 37 and 42

Section 56 of the Regulation applies if the radiation source for the radiation practice mentioned in sections 37(1) of 42(2) of the Act is an ionising radiation source. Section 56 of the Regulation prescribes, for the purpose of section 37(2)(c)(i) and 42(2) of the Act, the radiation dose limits for 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 of the Regulation.

Radiation hazards—Act, ss 127, 132 and 133

Section 127 of the Act states that an inspector may seize a thing where the inspector reasonably believes the thing is the cause of, or is likely to cause, a radiation hazard at a place, and the radiation hazard cannot be managed in a way to ensure no person will receive a radiation dose from the thing higher than the radiation dose limit prescribed by regulation.

Section 132 requires the inspector to give a receipt for the seized thing to the person from whom it was seized. If the thing was seized under section 127, section 132(4)(b) requires the inspector to state on the receipt that the thing will be forfeited to the State if the owner does not, in the period of 90 days from the seizure, demonstrate to the satisfaction of an inspector that the radiation hazard can be managed in a way that ensure that no person will receive a radiation dose from the thing higher than the radiation dose prescribed by regulation.

Section 133(2)(c) of the Act states that where a person fails to comply with the requirement under section 132(4)(b) of the Act, the thing will be forfeited to the State.

Section 57 of the Regulation applies if the thing mentioned in section 127(1)(a), 132(4)(b) or 133(2)(b) of the Act is an ionising radiation source. Section 57 of the Regulation prescribes, for the purpose of sections 127(1)(b), 132(4)(b) and 133(2)(c) of the Act, the radiation dose limits for public exposure of a person to ionising radiation while the radiation practice is carried out are each of the radiation doses stated in schedule 5, part 3 of the Regulation.

Subdivision 4 Other exposure

Exposure of particular persons—Act, ss 37 and 41

Section 37 of the Act states that a possession licensee's approved radiation safety and protection plan must state the functions of a radiation safety officer appointed by the licensee. Section 37(2)(c) states that these functions must include providing, or arranging for the provision of, training to the persons mentioned in paragraph 37(2)(b) about precautions that need to be taken to ensure radiation doses received by the persons and other persons from a radiation source are, for ionising radiation, below the radiation dose limit prescribed by regulation, and as low as reasonably achievable, and for non-ionising radiation are below the radiation dose limit prescribed under a regulation and minimised as far as practicable.

Section 41(5) of the Act states that a use licensee must not, in carrying out a diagnostic or therapeutic procedure with a radiation source, allow another person involved in carrying out the procedure, other than the person being irradiated (the *treated person*), to receive a radiation dose higher than the radiation dose limit prescribed by regulation. Failure to comply with this requirement is an offence with a maximum penalty of 200 penalty units.

Section 58 of the Regulation states that 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 a treated person; and

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

Section 58(2) of the Regulation prescribes that, for sections 37(2)(c)(i) and 41(5) of the Act, the radiation dose limit 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 for any 12 month period.

Section 58(3) of the Regulation states that the dose limits in section 58(2) of the Regulation do not apply if the exposure is an occupational exposure to the ionising radiation.

Radiation hazards–Act, ss 127, 132 and 133

Section 59 of the Regulation states that 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.

Section 59(2) of the Regulation also prescribes that, 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 the treated person, to ionising radiation from the radiation source is a total effective dose of 5mSv in any 12 month period.

Section 59(3) of the Regulation states that the dose limits in section 59(2) of the Regulation do not apply if the exposure is an occupational exposure to the ionising radiation.

Subdivision 5 Miscellaneous

Mineral substances that are not radioactive substances

Section 60 of the Regulation states this section applies to a person who possesses a mineral substance that is a radioactive material, but is not a radioactive substance. That is, a mineral substance that spontaneously emits ionising radiation as a result of the radioactive decay of a radionuclide in it, but is not prescribed as a radioactive substance under section 4(1)(b) of the Regulation.

Where the section applies, the person must ensure that another person does not receive a total effective dose of ionising radiation from the mineral substance that is—

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

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

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

Failing to comply with the section is an offence with a maximum penalty of 20 penalty units.

Division 2 Non-ionising radiation

Exposure of particular persons to non-ionising radiation—Act, s 37

Section 37 of the Act states that a possession licensee's approved radiation safety and protection plan must state the functions of a radiation safety officer appointed by the licensee. Section 37(2)(c) states that these functions must include providing, or arranging for the provision of, training to the persons mentioned in paragraph 37(2)(b) about precautions that need to be taken to ensure radiation doses received by the persons and other persons from a radiation source are, for ionising radiation, below the radiation dose limit prescribed by regulation, and as low as reasonably achievable, and for non-ionising radiation are below the radiation dose limit prescribed under a regulation and minimised as far as practicable.

Section 61 of the Regulation 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. Section 61 of the Regulation prescribes, for section 37(2)(c)(ii) of the Act, the radiation dose limits for the exposure of a person to non-ionising radiation from the radiation source. The prescribed radiation dose limit is the radiation dose resulting from exposure to the maximum permissible exposure value calculated in accordance with Annex A of the laser standard. The *laser standard* is defined in schedule 9 of the Regulation, as the AS/NZS IEC 60825.1-2014 (Safety of laser products, Part 1: Equipment classification and requirements).

Exposure of particular persons to non-ionising radiation—Act, s 41

Section 41(5) of the Act states that a use licensee must not, in carrying out a diagnostic or therapeutic procedure with a radiation source, allow another person involved in carrying out the procedure, other than the person being irradiated (the *treated person*), to receive a radiation dose higher than the radiation dose limit prescribed by regulation. Failure to comply with this requirement is an offence with a maximum penalty of 200 penalty units.

Section 62 of the Regulation 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. Section 62 of the Regulation prescribes, for section 41(5) of the Act, the radiation dose limits for the exposure of a person to non-ionising radiation from the radiation source. The prescribed radiation dose limit is the radiation dose resulting from exposure to the maximum permissible exposure value calculated in accordance with Annex A of the laser standard. The *laser standard* is defined in schedule 9 of the Regulation, as the AS/NZS IEC 60825.1-2014 (Safety of laser products, Part 1: Equipment classification and requirements).

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

Section 42(2) of the Act states that a person, in carrying out a radiation practice with a radiation source, must not cause another person to receive a radiation dose higher than the radiation dose limit prescribed by regulation. Failure to comply with this requirement is an offence with a maximum penalty of 500 penalty units.

Section 64 of the Regulation 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. Section 64 of the Regulation prescribes, for section 42(2) of the Act, the radiation dose limit for the exposure of a person to non-ionising radiation from the radiation source. The prescribed radiation dose limit is the radiation dose resulting from exposure to the maximum permissible exposure value calculated in accordance with Annex A of the laser standard. The *laser standard* is defined in schedule 9 of the Regulation, as the AS/NZS IEC 60825.1-2014 (Safety of laser products, Part 1: Equipment classification and requirements).

Radiation hazards—Act, ss 127, 132 and 133

Sections 127, 132(4)(b) and 133(2)(c) of the Act relate to when an inspector may seize a dangerous thing that is, or may cause, a radiation hazard and is deemed to not be able to be managed in a way to ensure that no person will receive a radiation dose from the thing higher than the dose limit, what must be stated on the seizure receipt relating to forfeiture of the thing to the State under various conditions and when the thing will be deemed to be forfeited to the State.

Section 64 of the Regulation applies if the thing mentioned in section 127(1)(a), 132(4)(b) or 133(2)(c) of the Act is a *radiation apparatus* that is a laser. A laser is a radiation apparatus if it emits, or is capable of emitting, more than the accessible emission limit, for a class 1 laser, for the period stated in, and measured in accordance with, the laser standard. The *laser standard* is defined in schedule 9 of the Regulation, as the AS/NZS IEC 60825.1-2014 (Safety of laser products, Part 1: Equipment classification and requirements).

Section 64 of the Regulation prescribes, for sections 127(1)(b), 132(4)(b) and 133(2)(c) of the Act, the radiation dose limits for the exposure of a person to non-ionising radiation from the radiation apparatus. The prescribed radiation dose limit 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

Authorised persons for diagnostic or therapeutic procedures—Act, s 41

Section 41(1) of the Act states that a person must not prescribe a therapeutic procedure for another person, or request a diagnostic procedure for another person, involving the irradiation of the other person, unless the first person is authorised to do so by regulation. Failure to comply with this requirement is an offence with a maximum penalty of 200 penalty units.

Section 65 of the Regulation prescribes, for section 41(1) of the Act, the authorised persons for diagnostic or therapeutic procedures are set out in schedule 6 of the Regulation.

For a diagnostic procedure stated in schedule 6, part 1, column 1 of the Regulation, an authorised person is a person stated in schedule 6, part 1, column 2 opposite the procedure.

For a therapeutic procedure stated in schedule 6, part 2, column 1 of the Regulation, an authorised person is a person stated in schedule 6, part 2, column 2 opposite the procedure.

Physician assistant authorised under practice plan—Act, s 41

Section 66 of the Regulation prescribes, 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 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.

In this section, *physician assistant* is defined to mean a person:

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

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

In this section, *practice plan*, for a physician assistant, is defined to mean a document that:

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

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

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

In this section, *supervising medical officers*, for a physician assistant, is defined to mean 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 of a Hospital and Health Service under the *Hospital and Health Boards Act 2011*.

Part 10 Banned radiation sources

Banned radiation source for possession—Act, s 47

Section 47(1) of the Act states that a person must not possess, supply or use a radiation source that is prescribed under a regulation to be a banned radiation source.

Section 67 of the Regulation prescribes, for section 47(1) of the Act, that a relevant solarium is a banned radiation source in relation to the possession of the relevant solarium. A *relevant solarium* is defined in schedule 9 of the Regulation and means a solarium other than a solarium owned by an individual and not used for a business. It also includes a solarium that, immediately before the commencement of the *Radiation Safety Amendment Regulation (No. 1) 2013*, was a relevant solarium within the meaning of the *Radiation Safety Regulation 2010*. A person must not apply for a possession licence for a relevant solarium, and the chief executive must not grant a possession licence for a relevant solarium

Part 11 Act instruments

Division 1 General

Documents relating to proof of identity—Act, s 51

Section 51 of the Act sets out the procedural requirements for application for an Act instrument. Section 51(c)(ii) and (iii) of the Act state that an application must be accompanied by the documents prescribed by regulation to prove the applicant's identity or the nominated person's identity.

Section 68 of the Regulation prescribes, for sections 51(1)(c)(ii) and (iii) of the Act, the documents set out in schedule 7 of the Regulation. A relevant application must be accompanied by a copy of one of the documents mentioned in schedule 7, part 1 and a copy of one of the documents mentioned in schedule 7, part 2 of the Regulation. At least one of the documents must contain a photograph of the applicant or nominated person.

For the purpose of this section, *copy*, of a document in relation to an application for an Act instrument, means a reproduction of the document in the way form required or permitted by the approved form for the application.

Prescribed sealed radioactive substance—Act, s 52

Section 52(1) of the Act provides that an application for an approval to acquire a radiation source may be made for a single acquisition of a radiation source, or for the periodic acquisition of an unsealed radioactive substance or prescribed sealed radioactive substance. An application for the periodic acquisition of a radiation source is called a *continuing approval to acquire*.

Section 52(2) of the Act provides that a *prescribed sealed radioactive substance* means a short-lived, low-activity sealed radioactive substance usually used in carrying out a diagnostic or therapeutic procedure involving the irradiation of another person, prescribed under a regulation.

Section 69 of the Regulation prescribes, for section 52(2) of the Act, that an iodine-125 seed with an activity of not more than 40MBq is prescribed for brachytherapy. An *iodine-125 seed* is prescribed to be iodine-125 as a sealed radioactive substance.

Standard conditions for possession, use or transport licences—Act, s 75

Section 75(3) of the Act states that a possession or use licence is subject to the condition that the holder of the licence comply with a code, protocol, standard or document, prescribed by regulation about the radiation practice to which the licence relates. Section 77 provides that failure to comply with this condition is an offence with a maximum penalty of 200 penalty units.

Section 70 of the Regulation prescribes, for section 75(3) of the Act, the types of radiation practice (Column 1) and the code, protocol, standard or document published by ARPANSA which applies (Column 2), as follows:

	Column 1 **Radiation practice to which the possession licence or use licence relates**	**Column 2** **Code, protocol, standard or document**
1	possess or use an ionising radiation source to carry out a diagnostic or therapeutic procedure involving the irradiation of an animal	Code of Practice for Radiation Protection in Veterinary Medicine (2009)
2	possess or use an ionising radiation source to carry out a diagnostic or therapeutic procedure involving the irradiation of a person	Code of Radiation Protection in Medical Exposure (2019)
3	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)
4	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)
5	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)
6	possess or use an ionising radiation source for industrial gauging	Code of Practice for Safe Use of Fixed Radiation Gauges (2007)
7	possess or use a radiation source that is a security enhanced source	Code of Practice for the Security of Radioactive Sources (2019)
8	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)
9	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)

Section 75(4) of the Act states that a transport licence is subject to the condition that the holder of the licence comply with a code, protocol, standard or document, prescribed by regulation about the transport of radioactive substances to which the licence relates.

Section 70(2) of the Regulation prescribed, for section 75(4) of the Act, that each of the following codes, protocols, standard or documents are prescribed:

(a) for the transport of any radioactive substance – the transport code of practice;

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

The *transport code of practice* is defined in schedule 9 of the Regulation to mean the document called 'Code for the Safe Transport of Radioactive Material' (2019) published by ARPANSA.

Notification of change in circumstances—Act, s 92

Section 92(2) of the Act states that the holder of an Act instrument must, within 14 days after the happening of a change in the holder's circumstances prescribed by regulation, given the chief executive written notice of the change and return the instrument to the chief executive.

Section 71 of the Regulation prescribes, for section 92(2) of the Act, the prescribed changes in the holder's circumstances are:

(a) for a holder of a licence—

  (i) if the licence holder is not a prescribed licensee – a change in the licence 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 holder's 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.

In this section, *veterinary surgeon* is defined to mean veterinary surgeon as defined in the schedule to the *Veterinary Surgeons Act 1936*.

A *prescribed licensee* is defined to mean a person prescribed under part 12, division 2 of the Regulation.

Relevant offence—Act, sch 2

Schedule 2 of the Act includes a defined term, *relevant offence*, which includes an offence involving a prescribed activity under the Act, an offence involving violence or threatening violence, an offence involving the use, carriage, discharge or possession of a firearm or another offence prescribed by regulation. The definition of *relevant offence* is included in the parts of the Act that relate to a person's suitability to hold a possession, use or transportation licence.

Section 72 of the Regulation prescribes a list of offences that are included as *relevant offences* under Schedule 2 of the Act, including:

- an offence mentioned in the *Criminal Code Act 1995* (Cth), schedule, chapter 5;
- an offence under a State law corresponding to an offence mentioned in the *Criminal Code Act 1995* (Cth), schedule, part 5.1 (other than an offence mentioned in paragraph (a), (b), or (c) of the definition of *relevant offence* in schedule 2 of the Act;
- an offence against the *Weapons of Mass Destruction (Prevention of Proliferation) Act 1995* (Cth); and
- an offence against the *Customs Act 1901* (Cth) relating to the importation or exportation of radioactive material and various other offences.

Division 2 Prescribed licensees

Use licensee—Act, s 103K

Section 103K(1)(a) of the Act states a regulation may prescribe a person (a *prescribed licensee)* or a class of persons (also each a *prescribed licensee)* who is taken to hold a use licence. A regulation made under section 103K(1)(a) must also state:

- the qualification, professional registration or training that must be held by the prescribed licensee; and
- particulars of the radiation source the prescribed licensee is allowed to use under the use licence; and
- the radiation practice the prescribed licensee is allowed to carry out using the source.

A regulation made for section 103K of the Act may also prescribe conditions the chief executive considers necessary or desirable to: protect persons, or the environment, from the harmful effects of radiation; or ensure the security of a radiation source

Section 73 of the Regulation prescribes, for section 103K(1)(a) of the Act, persons registered under the Health Practitioner Regulation National Law to practice in the dental profession as a dentist, other than as a student, are prescribed licensees. Section 74 of the Regulation also provides that:

- the radiation source the prescribed licensee is allowed to use is an intra-oral dental plain diagnostic imaging radiation apparatus;
- the radiation practice the prescribed licensee is allowed to carry out is intra-oral dental plain diagnostic imaging, involving the irradiation of the person:

Transport licensee—Act, s 103K

Section 103K(1)(b) of the Act states a regulation may prescribe a person (a *prescribed licensee)* or a class of persons (also each a *prescribed licensee)* who is taken to hold a transport licence. A regulation made under section 103K(1)(b) must also state:

- particulars of the radioactive substance the prescribed licensee is allowed to transport under the transport licence;
- how the substance must be transported under the transport licence; and
- the amount of the substance the prescribed licensee is allowed to transport under the transport licence.

A regulation made for section 103K of the Radiation Safety act may also prescribe conditions the chief executive considers necessary or desirable to protect persons, or the environment, from the harmful effects of radiation; or ensure the security of a radiation source.

Section 74 of the Regulation prescribes, for section 103K(1)(b) of the Act, persons holding an authority under a corresponding transport law to transport a radioactive substance are prescribed licensees. Section 75 also prescribes that the prescribed licensee may only transport the radioactive substance into Queensland.

In this section, *authority* is defined to include an accreditation, approval, certificate or licence and *corresponding transport law* is defined to mean a law of another State or the Commonwealth relating to the transportation of radioactive substances.

Part 12 Registers

Register of licensees—Act, s 207

Section 207 of the Act requires the chief executive to keep a register about licensees (other than prescribed licensees), accredited persons, qualified persons and other classes of persons relevant to the Act. The register must contain information prescribed under by regulation.

Section 75 of the Regulation states, for section 207(2) of the Act, the register must include the following information about licensees, other than prescribed licensees:

(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, other than a condition imposed under section 75(3) or section 75(4) of the Act;

(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.

Register of accredited persons—Act, s 207

Section 76 of the Regulation states, for section 207(2) of the Act, that the register about accredited persons must contain the following information for each accredited person:

(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.

Register of qualified persons—Act, s 207

Section 77 of the Regulation states that the register about qualified persons must contain all of the following information for each qualified person:

(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.

Register of inspectors—Act, s 207

Section 78 of the Regulation states that the register about inspectors must include all of the following information for each inspector:

(a) the inspector's name;

(b) the term, if any, of the inspector's appointment;

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

Register of State radiation analysts—Act, s 207

Section 79 of the Regulation states that the register about state radiation analysts must contain all of the following information for each State radiation analyst:

(a) the analyst's name;

(b) the term, if any, of the analyst's appointment;

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

Register of suspended or cancelled prescribed licensees—Act, s 207

Section 80 of the Regulation states that the register about prescribed licensees whose licences have been suspended or cancelled must include the following information for each prescribed licensee:

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

  (i) the licensee's name;

  (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 suspend takes effect.

Part 13 Confidentiality of information

Disclosure of protected information—Act, s 209

Section 209 of the Act establishes the confidentiality requirements for information that would likely damage the commercial activities or intellectual property rights of the person it relates to; information that is personal health information for a person; or information that is personal monitoring information for a person. Section 209(4) states that protected information may be disclosed by the chief executive to the Commonwealth or another State, or an entity of the State, the Commonwealth or another State, for a purpose prescribed by regulation.

Section 81 of the Regulation states, for section 209(4) of the Act, the prescribed purposes for which protected information may be disclosed by the chief executive are:

(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 persons 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 serious breach relating to the security of 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 Exemptions from requirement for use licence generally

Prescribed radiation practice—Act, s 13

Section 13 of the Act states that a person must not use a radiation source, unless the person is allowed to use it under a use licence. However, section 13(2) of the Act states that requirement does not apply to a person if the person is using the source in the presence of, and under the personal supervision of, the use licensee and the use is for the purpose of helping the licensee to carry out the practice, if the practice is a prescribed radiation practice.

Section 13(3) of the Act states that a *prescribed radiation practice* means a radiation practice, other than the carrying out of a diagnostic or therapeutic procedure involving the irradiation of another person, prescribed under a regulation.

Section 82 of the Regulation prescribes the following radiation practices, under section 13(3) of the Act, as a *prescribed radiation practice*—

(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 source or sealed source apparatus;

(f) the compliance testing of a radiation source by a qualified 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.

For this section, *compliance testing*, of a radiation source or premises, is defined to mean assessing whether the source or premises comply with the relevant radiation safety standard. A *relevant accredited person*, for a type of radiation source or premises is also prescribed as 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.

Use licence not required for particular training—Act, s 13

Section 13 of the Act states that a person must not use a radiation source, unless the person is allowed to use it under a use licence. However, section 13(2) of the Act states that requirement does not apply to a person if the person is using the source in the presence of and under the personal supervision of the use licensee and the use is for the purpose of the person undergoing training prescribed under a regulation.

Section 83 of the Regulation prescribes, for section 13(2)(b)(ii) of the Act, the following training:

(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 radiation source at an educational institution or other entity.

The chief executive must 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 an educational institution or entity is of an acceptable standard; and

(d) the education institution or entity assesses:

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

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

A list of all of the training approved by the chief executive must be published on the department's website. Publishing this information on the department's website constitutes approval of the training under section 84(2) of the Regulation.

For this section, a *non-ionising radiation apparatus* is defined to mean an apparatus mentioned in paragraphs (c) and (d) under the definition of *radiation apparatus* in schedule 2 of the Act.

Division 2 Exemptions for particular radiation sources

Exemption from requirement for possession licence and particular approvals—Act, s 210

Section 210 of the Act allows for the regulation to exempt radiation sources from the Act or a provision of the Act. The exemption must not be one that could reasonably be expected to pose any, or more than negligible, health risks to any person or adverse effects on the environment.

Section 12 of the Act states that it is an offence for a person to possess a radiation source, unless the person is allowed to possess it under a possession licence.

Section 84 of the Regulation states that, under section 210 of the Act, a radioactive substance containing the radionuclide americium-241, hydrogen-3 or nickel-63 is exempt from sections 12, 23, 24 and 25 of the Act if it is incorporated in a sealed source apparatus and the apparatus is used for gas chromatography or ion mobility spectrometry.

Exemption from requirement for use licence—Act, s 210

Section 85 of the Regulation states that 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 procedure 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.

Section 85 of the Regulation also states that 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) the sealed radioactive substance incorporated in a sealed source apparatus, if the apparatus is used for irradiation for sterilisation, disinfestation or similar purposes

(f) a radiation apparatus used for irradiation for sterilisation, disinfestation or similar purposes;

(g) a radiation apparatus used for industrial gauging.

In this section, *enclosed analytical apparatus* is defined to mean an ionising radiation apparatus, used for chemical analysis, in which:

(a) the radiation source, the sample for analysis and the 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 apparatus during normal operation of the apparatus; and

(b) access to the primary X-ray beam in the chamber, or coupled chambers, is prevented by an interlock.

In this section, *interlock*, for an enclosed analytical apparatus, is defined to mean a device or mechanism that:

(a) prevents the primary X-ray beam of the apparatus from entering the chamber, or coupled chambers, of the apparatus unless the device or mechanism is engaged; and

(b) if disengaged, causes the primary X-ray beam of the apparatus to immediately stop entering the chamber, or coupled chambers, of the apparatus; and

(c) if re-engaged after being disengaged, prevents the automatic resumption of irradiation by the apparatus.

Exemption from requirement for transport licence—Act, s 210

Section 86 of the Regulation states, under 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. *Transport code of practice* is defined in schedule 9 of the Regulation and means the document called 'Code for the Safe Transport of Radioactive Material' (2019) published by ARPANSA. For the purpose of this section, *excepted package* has the meaning given by the transport code of practice.

Subsection 86(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 one of the following radiation practices—

(a) borehole or well logging;

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

(c) industrial radiography.

For section 210 of the Act, the 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.

Smoke detectors—Act, s 210

Section 87 of the Regulation states, for section 210 of the Act, a:

(a) radioactive substance incorporated in a domestic smoke detector is exempt from sections 12, 13, 23, 24, 25 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, 13, 23, 24 and 25 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).

The exemption under this section does not apply while the smoke detector is being manufactured or repaired.

For the purpose of this section, *domestic smoke detector* is defined to mean an ionisation chamber smoke detector containing the radionuclide americium-241 having an activity of not more than 37kBq and was manufactured in accordance with AS 3786-1993 (Smoke alarms), second edition.

Particular radioactive substances, incorporated in items to produce light—Act, s 210

Section 88 of the Regulation prescribes, 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, 23, 24, 25 and 26 of the Act; and

(b) radioactive substance containing the radionuclide radium-226, incorporated in an item to produce light, is exempt from sections 12, 13, 23, 24 and 25 of the Act; and

(c) radioactive substance containing the radionuclide krypton-85, incorporated in an item to produce, or help to produce light, is exempt from sections 12, 13, 23, 24, 25 and 26 of the Act.

This section does not apply if:

(a) the item is a gaseous tritium light device; or

(b) the item is being manufactured or repaired.

Gaseous tritium light devices—Act, s 210

Section 89 of the Regulation prescribes, for the purpose of 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 into a gaseous tritium light device, is exempt from sections 12, 13, 23, 24 and 25 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.

Depleted uranium—Act, s 210

Section 90 of the Regulation prescribes, for section 210 of the Act, a radioactive substance that is depleted uranium is exempt from 12, 14, 15, 23, 24 and 25 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.

In this section, *depleted uranium* is defined to mean uranium containing less than 0.72 per cent of the radionuclide uranium-235.

Sealed radioactive substances used in teaching—Act, s 210

Section 91 of the Regulation applies to a sealed radioactive substance containing a radionuclide mentioned in column 1 of the table in section 92 if the activity of the radionuclide is not more than the activity mentioned in column 2 of the table shown opposite the radionuclide:

- cobalt-60, at an activity level no more than 200kBq;
- strontium-90, at an activity level no more than 80kBq;
- caesium-137, at an activity level no more than 200kBq;
- radium-226, at an activity level no more than 20kBq; and
- americium-241, at an activity level no more than 40kBq.

Section 91 of the Regulation also prescribes, for the purpose of 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.

Minerals—Act, s 210

Section 92 of the Regulation applies to a sample of a mineral that is a radioactive substance. Section 92 of the Regulation prescribes, for section 210 of the Act, that the radioactive substance is exempt from sections 12, 23, 24 and 25 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.

Abrasive blasting material containing radionuclides—Act, s 210

Section 93 of the Regulation 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.

Section 93 of the Regulation prescribes, for the purpose of section 210 of the Act, the radioactive substance is exempt from sections 12, 23, 24 and 25 of the Act if the amount worked out, using the formula, in relation to the material is not more than 1—

$$(0.1 \times U) + (0.2 \times Th)$$

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.

Further, a radioactive substance that is exempt from sections 12, 23, 24 and 25 of the Act under section 93 of the Regulation 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.

In this section, *abrasive blasting material* is defined to mean material that could reasonably be used for abrasive blasting.

TCLP and *Australian drinking water guidelines* are defined in schedule 9 of the Regulation. 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). 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.

Persons administered radioactive substance as part of a diagnostic or therapeutic procedure—Act, s 210

Section 94 of the Regulation 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.

Section 94 of the Regulation prescribes, for the purpose of section 210 of the Act, the person's bodily waste is exempt from section 26 of the Act only to the extent that it is disposed of by the person.

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

Section 95 of the Regulation prescribes, for the purpose of 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, 23, 24, 25 and 26 of the Act. The exemption in this section of the Regulation does not apply while the tube is being manufactured or repaired.

Thoriated products—Act, s 210

Section 96 of the Regulation prescribes, for section 210 of the Act, a radioactive substance containing natural thorium is exempt from sections 12, 23, 24, 25 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, such as giving the person the electrode in packaging clearly showing the warning statement.

In this section, *warning statement* is defined to mean a statement about the radiation hazard arising from inhaling or ingesting filings from a tungsten welding electrode when preparing the electrode for arc welding and the measures for preventing or minimising the radiation hazard.

Particular lasers—Act, s 210

Section 97 of the Regulation prescribes, for the purpose of 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.

For this section, *labelling and information requirements*, for a laser, is defined to mean the requirements about labelling and information stated for the laser in clauses 6 and 7 of the laser standard.

Part 15 Fees

Fees—general

Section 98 of the Regulation states that the fees payable under the Act are stated in Schedule 8 of the Regulation.

Fees—Act, s 51

Section 51(1)(c)(i) of the Act states an application for an Act instrument must be accompanied by the fees prescribed under a regulation. Section 99 of the Regulation prescribes fees for section 51(1)(c)(i) of the Act.

For an application for a possession licence, the fee is the total of an application fee and a licence fee consisting of—

(a) an application fee; and

(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—the number of radiation apparatus that are the subject of the application.

For section 51(1)(c)(i) of the Act, the following totals apply to the relevant categories of Act instruments, for:

- a use licence or transport licence—the total of the application fee and the licence fee;
- an accreditation certificate—the total of the application fee and the accreditation certificate fee;
- a radiation safety officer certificate—the total of the application fee and the radiation safety officer certificate fee.

Under section 99(5) of the Regulation, for an application for an approval to acquire, the application fee is the fee for an approval to acquire.

Fees—Act, s 79

Section 79(3)(b)(i) of the Act states an application for the renewal of an Act instrument must be accompanied by the fees prescribed under a regulation.

Section 100 of the Regulation prescribes, for section 79(3)(b)(i) of the Act, the fee for the renewal of a possession licence is a licence fee consisting of the following:

(a) a base fee;

(b) a fee calculating 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 – the number of radiation apparatus that are the subject of the application.

Section 100 also states the following, for section 79(3)(b)(i) of the Act:

(a) where a person applies for an application for the renewal of a use or transport licence – the fee is a licence fee;

(b) where a person applies for an application for the renewal of an accreditation certificate – the fee is an accreditation certificate fee;

(c) where a person applies for an application for the renewal of a radiation safety officer certificate – the fee is a radiation safety officer certificate fee.

Persons who must pay fee for security check or criminal history check—Act, s 103A

Section 103A of the Act provides that the chief executive may conduct a security check and criminal history check of certain applicants for Act instruments. Section 103A(3) states that a regulation may prescribe the fee for a security check or criminal history check and who must pay the fee.

Section 101 of the Regulation prescribes who is required to pay the prescribed fees for section 103A of the Act. The following persons are prescribed:

(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.

Exemption from payment of fees

Section 102 of the Regulation 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.

Where this section applies, the application fee and licence fee, payable under this regulation, for the licence are not payable by the person.

The exemption recognises it would be inappropriate to charge a fee for students who are undertaking mandatory training that will enable them to complete their studies.

Section 102(4) of the Regulation 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. Section 102(4) prescribes that if the licensee applies for another use licence to carry out a diagnostic or therapeutic procedure involving the irradiation of a person, the use licensee is exemption from payment of the application fee for the other use licence.

Section 102 also states that the following fees are not payable by the State:

(a) the fees related to possession stated in schedule 8, part 1 and other fees stated in schedule 8, part 4;

(b) the application fee stated in schedule 8, item 5 for an approval to acquire;

(c) the application fee stated in schedule 8, item 6 for an approval to dispose;

(d) the application fee stated in schedule 8, item 7 for an approval to relocate.

Exemption from payment of fees—provisional registrants

Section 103 of the Regulation applies to a provision registrant who applies for a use licence to carry out a diagnostic or therapeutic procedure involving the irradiation of a person. If this section applies, the provisional registrant is exempt from payment of the application fee for the use licence.

For the purpose of this section, *accrediting body* is defined to mean the accreditation committee established by the Medical Radiation Practice Board of Australia under the Health Practitioner Regulation National Law, and *provisional registrant* is defined to mean 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.

Refund of fees

Section 104 of the Regulation applies in relation to an application for the grant or renewal of a possession licence, use licence, transport licence, accreditation certificate, or radiation safety officer certificate. The chief executive must as soon as practicable refund the fees, other than the application fee paid on the application if the chief executive refuses to grant the application, or the applicant withdraws their application before it is decided.

Part 16 Transitional provisions

Definition for part

Section 105 of the Regulation states that in part 16 of the Regulation, *expired regulation* means the expired *Radiation Safety Regulation 2010*.

References to expired regulation

Section 106 of the Regulation clarifies that, in a document, any reference to the expired regulation may, if the context permits, be taken to be a reference to the *Radiation Safety Regulation 2021*.

Identification documents for existing applications

Section 107 of the Regulation applies if:

(a) before the commencement, a person made a relevant application within the meaning of section 10 of the expired regulation; and

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

Despite section 68 of the Regulation, which prescribes proof of identity documents for relevant applications, section 10 of the expired regulation continues to prescribe the documents for section 51(1)(c)(ii) and (iii) of the Act. Section 10 of the repealed regulation prescribes the documents to prove an applicant's or nominated person's identity that must accompany an application for an Act instrument.

Use licence not required for particular training

Section 108 of the Regulation applies to a person who, immediately before the commencement of the Regulation, was enrolled in either of the following training:

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

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

The person, who this section applies to, is exempt from section 13 of the Act. Section 108(3) of the Regulation states that this section stops applying to the person on the day that is 6 months after the commencement of the Regulation. This has the effect of ensuring a person who is currently undertaking training is able to continue this training without needing to obtain a use licence due to the transition from the expired regulation to the Regulation.

Part 17 Amendment of this regulation

Regulation amended

Section 109 states that part 17 amends the Regulation.

Replacement of sch 8 (Fees)

Section 110 omits schedule 8 of the Regulation and replaces it with the schedule of fees stated in this section.

Fees and charges in the Regulation and other Health portfolio regulations are indexed from 1 October each year. As the Regulation, apart from part 17, will commence from 1 September 2021, it is necessary to provide for the indexation of fees on 1 October 2021.

Section 110 provides for a schedule of fees that has been indexed by 1.7 per cent, in line with the Government Indexation Rate for the 2021-2022 financial year. This section will commence on 1 October 2021 under section 2(2) of the Regulation.

Schedule 1 Radionuclide concentrations and activities

Schedule 1 states the radionuclide concentrations and activities for sections 4, 11 and 12 of the Regulation, which relate to the definition of *radioactive substance* in schedule 2 of the Act and the requirements for the disposal of radioactive material and mineral substances, other than into the air, water or sewerage system under section 26 of the Act.

Schedule 2 Security categorisation of a radiation source or an aggregation of radiation sources

Part 1 Security categories

Schedule 2, part 1 prescribes the security categories and activity ratios for the definition of *security enhanced source* in section 7 of the Regulation.

Part 2 Radionuclide activity values

Schedule 2, part 2 states the radionuclide and radionuclide activity values for the definition of *security enhanced source* in section 7 of the Regulation.

Schedule 3 Disposal of radioactive material—radionuclide concentrations

Schedule 3 prescribes the concentrations of radionuclides for sections 9 and 10 of the Radiation Safety Regulation to support the safe disposal of radioactive material into air, water or the sewerage system.

Schedule 4 Qualifications

Schedule 4 states the radiation practice and qualifications for section 49 of the Regulation. This has the effect of prescribing the possession licences who may appoint themselves as a radiation safety officer for a radiation practice under section 36(3) of the Act.

Schedule 5 Radiation dose limits for ionising radiation

Part 1 Occupational exposure of adults while involved in carrying out radiation practice

Schedule 5, part 1 of the Regulation prescribes for 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) of the Regulation, the following radiation dose limits for ionising radiation related to occupational exposure of an 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 persons who are 16 or 17 years while involved in carrying out radiation practice

Schedule 5, part 2 of the Regulation prescribes the following radiation dose limits for ionising radiation related to occupational exposure of a person aged 16 or 17 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 Other exposure of persons

Schedule 5, part 3 of the Regulation prescribes the following radiation dose limits for ionising radiation related to the exposure of a person other than while involved in carrying out a 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

Part 1 Diagnostic procedures

Schedule 6, part 1 prescribes, for section 66 of the Regulation and section 41 of the Act, the persons who are authorised to request a diagnostic procedure for another person that involves the irradiation of the other person.

Part 2 Therapeutic procedures

Schedule 6, part 2 prescribes, for section 66 of the Regulation and section 41 of the Act, the persons who are authorised to prescribe a therapeutic procedure for another person that involves the irradiation of the other person.

Schedule 7 Proof of identity documents

Part 1 Primary identity documents

Section 51(1)(c)(ii) and (iii) of the Act state that an application for an Act instrument must be accompanied by documents prescribed under a regulation to prove the applicant or nominated person's identity. Section 69 of the Regulation states that an application must be accompanied by copies of one document mentioned in schedule 7, part 1 and one document mentioned in schedule 7, part 2.

Schedule 7, part 1 prescribes several primary identity documents, such as an Australian birth certificate or Australian passport, as documents that may be used by a person to verify their identity as part of their application for an Act instrument.

Part 2 Secondary identity documents

Schedule 7, part 2 prescribes several secondary identity documents, such as an account statement issued by a financial institution with the previous year or a document evidencing electoral enrolment within the past two years, as documents that may be used by a person to verify their identity as part of an application for an Act instrument.

Schedule 8 Fees

Part 1 Possession licences

Schedule 8, part 1 prescribes, for sections 99, 100 and 101 of the Regulation, various fees relating to possession licences under the Act.

Part 2 Use licences and transport licences

Schedule 8, part 2 prescribes, for sections 99, 100 and 101 of the Regulation, various fees relating to use licences and transport licences under the Act.

Part 3 Other Act instruments

Schedule 8, part 3 prescribes, for sections 99, 100 and 101 of the Regulation, various fees relating to other Act instruments, such as an accreditation certificate or radiation safety officer certificate, under the Act.

Part 4 Other fees

Schedule 8, part 4 prescribes, for sections 99, 100 and 101 of the Regulation, various fees for specific parts of the Act, such as the fee for an application for approval of a transport security plan or the fee for the issuing of an Act instrument to replace a lost, stolen, destroyed or damaged Act instrument.

Schedule 9 Dictionary

Schedule 9 defines terms used in the Regulation.