MINISTRY OF HEALTH
MANATŪ HAUORA

New Zealand Government

Code of Practice for Irradiating Apparatus

Draft for consultation

2019

Released 2019

Citation: Ministry of Health. 2019. *Code of Practice for Irradiating Apparatus: Draft for consultation*. Wellington: Ministry of Health.

Published in September 2019 by the Ministry of Health
PO Box 5013, Wellington 6140, New Zealand

ISBN 978-1-98-859708-9 (online)
HP 7223

This document is available at health.govt.nz

Contents

This consultation

This document sets out possible wording for a new code of practice to be issued under the Radiation Safety Act 2016 for the use of non-medical irradiating apparatus. Section 86(2) of the Act requires that anyone likely to be affected by the code is consulted before it is issued. The purpose of this document is to provide suggestions to assist in that consultation process.

The Introduction to the Code, Key roles, Definitions, training and equipment requirements sections set out the proposed wording for the new code. The Submission form contains specific questions that submitters may wish to answer. These questions are included for convenience only and submitters should feel free to provide any information they feel is relevant to the development of the code.

Why are we consulting

In January 2017, ORS conducted a public consultation on a draft Code of Practice for Non-medical Uses of Ionising Radiation. The target audience for this consultation included all facilities using radiation or radioactive material for industrial, veterinary, agricultural, legal or security purposes. It also included facilities that use radiation or radioactive material for education, training or research, mining and procession of raw materials. The intention was to publish a single code for all non-medical activity categories supported by more detailed individual compliance guides, however, most of the audience preferred to have an individual code specific to each type of non-medical ration use. Based on this feedback, ORS has drafted a separate code of practice for non-medical irradiators. During the drafting process, more detailed operational requirements were developed such as training, equipment and testing requirements. ORS would like invite feedback from the affected sectors on these requirements.

How to provide feedback

You can provide feedback by:

using our online tool at **https://consult.health.govt.nz/radiation-safety/code-of-practice-for-irradiating-apparatus-draft**.

This is our preferred way to get feedback. Note, you can complete your submission over a number of sessions and save it as you go. If you select 'Save and come back later', you will be sent an email with a unique link that will let you return to edit and submit your response. This link can be shared with your colleagues if you require their contribution to, or review of, the submission. Once you have completed your submission, you will be sent a pdf copy for your records, or

- sending an electronic submission to **orsenquiries@health.govt.nz** using the Consultation questions section of this consultation document.

The closing date for submissions is 8 November 2019.

Introduction

Purpose and commencement

This Code of Practice for Irradiating Apparatus ('code') is issued by the Director for Radiation Safety ('the Director') under section 86 of the Radiation Safety Act 2016 ('the Act'). It provides the operational information necessary to comply with the fundamental requirements in sections 9 to 12 of the Act. Appendix 1 sets out cross-references between clauses in this code and those fundamental requirements. The requirements in this code do not limit the general nature of the fundamental requirements. This code comes into force on a date to be determined following the consultation period.

Scope

This code applies to all activities associated with fixed and mobile irradiating apparatus used for non-medical purposes such as analysis of structures; identification and quantification of elements in materials; inspection of bags, mail, containers and other items; and inspection of food items for foreign objects.

The use of irradiating apparatus for medical, veterinary, industrial radiography, or electron beam welding purposes is dealt with in separate codes of practice.

Activities can include the manufacture, possession, control, management, use, storage, import, export, sale, supply, and disposal of irradiating apparatus.

Compliance with the code does not imply compliance in related areas such as occupational safety, electrical safety, hazards in the workplace and resource management.

Contact

The Director's contact details are:

Office of Radiation Safety
PO Box 5013
Wellington 6140

Email: **orsenquiries@health.govt.nz**
Fax: 04 496 2340

Roles and responsibilities

The following individuals and bodies have roles and responsibilities in relation to this code.

Director for Radiation Safety – the individual appointed under section 76 of the Act to perform functions and duties and exercise powers set out in the Act, including the power to issue this code.

Managing entity – the legal entity that manages or controls irradiating apparatus and must, therefore, obtain a source licence as required by section 13(a) of the Act.

Manufacturer/supplier – the person or organisation who designs, manufactures, produces, constructs, assembles, installs, distributes, sells, exports or imports items of irradiating apparatus or ancillary equipment that could influence the successful outcome of a radiation procedure.

Qualified expert – an individual who is recognised as having expertise in a relevant field of specialisation such as radiation safety, occupational health, fire safety, quality management or any relevant engineering or safety speciality.

Radiation safety officer – a person competent in radiation protection and safety who the managing entity designates to oversee the application of regulatory requirements.

Servicing engineer – a person who has expertise in installing, servicing and maintaining irradiating apparatus.

Definitions

Defined terms are identified in **bold** and have the following meanings.

Accident – any unintended event, including operating errors, equipment failures and other mishaps, the consequences or potential consequences of which are not negligible from the point of view of **protection and safety**.

Ancillary equipment – equipment other than **irradiating apparatus** that has an impact on the successful outcome of a **radiation procedure**, such as radiation measurement equipment and local shielding.

Constraint – a prospective and source-related value of individual dose (dose constraint) or of individual risk (risk constraint) that is used in **planned exposure situations** as a parameter for the **optimisation** of **protection and safety** for the source, and that serves as a boundary in defining the range of options in **optimisation**. Constraints for **occupational exposure** and **public exposure** are established or approved by the Director and, if established, are published in a compliance guide issued under this code.

Controlled area – an area in which specific protection measures and safety provisions are or could be required for controlling exposures in normal working conditions, and preventing or limiting the extent of **potential exposures**.

Dose limit – the value of **effective dose** or **equivalent dose** set out in Schedule 3 of the Act.

Effective dose – the tissue-weighted sum of **equivalent doses** in all specified tissues and organs of the body.

Emergency – any non-routine situation that necessitates prompt action, primarily to mitigate actual or perceived hazards or adverse consequences for human health and safety, quality of life, property or the environment. This includes **radiation emergencies** and conventional emergencies such as fires, release of hazardous chemicals, storms or earthquakes.

Employer – the legal entity that employs **workers**. A self-employed person is regarded as being both an employer and a worker.

Equivalent dose – the radiation-weighted dose in a tissue or organ of the body.

Facility – the location at which **radiation procedures** are performed and items of **irradiating apparatus** are installed, used, handled or stored.

In-room protective device – device or equipment to reduce exposure to radiation but not worn by a person, such as ceiling-suspended protective screens, protective lead curtains, mobile shields and protective drapes.

Incident – any **accident** or other unintended event, including initiating events, accident precursors, near misses or other mishaps; or unauthorised acts, malicious or non-malicious, the consequences or potential consequences of which are not negligible from the point of view of **protection and safety**.

Individual monitoring – **monitoring** using equipment worn by individuals.

Investigation level – value of a quantity such as **effective dose** at or above which an investigation would be conducted.

Irradiating apparatus – electrical equipment that:

(a) is designed to generate ionising radiation such as X-rays, neutrons, electrons, or other charged particles; or

(b) produces ionising radiation as a by-product:

  (i) resulting in a dose equivalent rate of or exceeding 1 microsievert per hour at a point 0.1 metres from any accessible surface; and

  (ii) that has a maximum energy of or exceeding 5 kiloelectronvolts.

Justify – determine that the expected benefits to individuals and society from introducing or continuing a practice outweigh the harm, including the radiation detriment, resulting from the practice. 'Justifies', 'justified' and 'justification' have corresponding meanings.

Medical exposure – exposure to ionising radiation experienced by patients for the purposes of medical diagnosis or medical treatment, by comforters/carers while providing care, support or comfort to patients undergoing **radiation procedures**, and by volunteers in a programme of biomedical research.

Member of the public – for purposes of **protection and safety**, any individual in the population except when subject to **occupational exposure** or **medical exposure**.

Monitoring – the measurement of dose or dose rate to enable the assessment or control of exposure due to radiation, and the interpretation of the results.

Occupational exposure – exposure of **workers** incurred in the course of their work.

Occupationally exposed person – any person who is subject to **occupational exposure**.

Optimise – implement a level of **protection and safety** that results in the magnitude of individual doses, the number of individuals (**workers** and **members of the public**) subject to exposure and the likelihood of exposure being as low as reasonably achievable, taking economic and social factors into account. 'Optimises', 'optimised' and 'optimisation' have corresponding meanings.

Personal protective equipment – equipment worn on the person to reduce their exposure to radiation, such as a protective apron.

Planned exposure situation – situation of exposure that arises from the planned use of **irradiating apparatus** or from a planned activity that results in an exposure due to **irradiating apparatus.**

Potential exposure – possible future exposure that may result from an anticipated operational occurrence or **accident** at a source or due to an event or sequence of events of a probabilistic nature, including equipment faults and operating errors.

Protection and safety – the protection of people against exposure to ionising radiation, the safety of **irradiating apparatus**, including the means for achieving this, and the means for preventing **accidents** and the mitigation of consequences of **accidents** if they do occur.

Protective equipment – **personal protective equipment** and **in-room protective devices**.

Public exposure – exposure to ionising radiation experienced by a **member of the public** but excluding any **occupational exposure** or **medical exposure**.

Radiation emergency – an emergency in which there is, or is perceived to be, a hazard due to radiation exposure.

Radiation procedure – a procedure involving the use of **irradiating apparatus**.

Reportable incident – an **incident** resulting in (a) a **dose limit** being exceeded or (b) **irradiating apparatus** that is lost, missing or beyond regulatory control.

Safety assessment – assessment of all aspects of a practice that are relevant to **protection and safety** to determine the adequacy of provisions for **protection and safety**.

Supervised area – an area other than a **controlled area** in which **occupational exposure** conditions need to be kept under review, even though specific protection measures or safety provisions are not normally needed.

Worker – an individual who works, whether full time, part time or temporarily, for the managing entity and who has recognised rights and duties in relation to occupational radiation protection. A self-employed person is regarded as being both an employer and a worker.

Workplace monitoring – **monitoring** carried out in the working environment.

Managing entity

General

1. The managing entity must:

   (a) take prime responsibility for protection and safety

   (b) establish a management system to enhance protection and safety that includes:

      (i) effectively integrating protection and safety into the overall management system of the organisation

      (ii) making a commitment to protection and safety from the highest level of management at the facility, and by providing all required resources

      (iii) promoting continuous improvement and a safety culture

      (iv) appointing a radiation safety officer to oversee the application of regulatory requirements for radiation protection and safety

      (v) consulting with and engaging the services of qualified experts and interested parties as necessary

   (c) for all appointments under subclause 1(b)(iv):

      (i) ensure appointees are notified of their duties in relation to protection and safety and assume responsibility for performing them

      (ii) fully document the appointments

   (d) ensure that:

      (i) all activities associated with irradiating apparatus are justified and optimised for protection and safety

      (ii) dose limits for occupational and public exposure are not exceeded as a result of those activities.

Safety assessment

2. The managing entity must conduct, document and keep up to date a safety assessment to:

   (a) identify the ways in which occupational and public exposures could be incurred

   (b) determine the expected likelihood and magnitudes of exposures in normal operation and, to the extent reasonable and practicable, assess potential exposures

(c) assess the adequacy of provisions for protection and safety in respect of siting, design and operation.

Facilities

3. The managing entity must:

(a) provide facilities that are sited, located, designed, manufactured, constructed, assembled, shielded, commissioned, operated, maintained and decommissioned in accordance with good engineering practice, taking into account workload and minimising the need to rely on administrative controls and personal protective equipment for protection and safety

(b) designate and delineate appropriate areas as controlled areas or supervised areas and periodically review those designations and delineations

(c) restrict access as appropriate to controlled areas and supervised areas

(d) provide suitable means for exit so that any person inadvertently remaining in a room containing irradiating apparatus can promptly exit the area

(e) shield or manage all areas in which irradiating apparatus that does not comply with clause 4(a)(iv) will be used or stored so that:

(i) no person can receive a dose exceeding 0.3 mSv per year from occupying areas outside the use and storage area for the irradiating apparatus

(ii) the dose rate at any point outside the use and storage areas is less than 10 μSv per hour

(f) verify and document the adequacy of shielding at commissioning and whenever circumstances change in ways that could increase the risks

(g) prominently display signs:

(i) specifying the actual or potential presence of ionising radiation using the symbol recommended by the International Organization for Standardization at access points to controlled areas and supervised areas and at appropriate locations within controlled areas

(ii) controlling access by members of the public to controlled areas and supervised areas.

Equipment

4. The managing entity must:

   (a) provide, maintain, test and regularly service each item of irradiating apparatus, protective equipment and ancillary equipment so that:

      (i) it is fit for its intended purpose

      (ii) it fulfils its design requirements for protection and safety

      (iii) irradiating apparatus meets the requirements in Appendix 3

      (iv) whenever irradiating apparatus is used or stored in areas that are not shielded or managed in accordance with clause 3(d) the apparatus has sufficient shielding and interlocks so that no person can receive an effective dose exceeding 0.3 mSv per year, and the dose rate in any occupied area is less than 10 µSv per hour

      (v) the protective value of protective equipment is clearly displayed on the equipment

      (vi) the removal of any interlocked shielding component prevents x-ray generation, and the replacement of such a component does not allow x-ray generation until the equipment operation is reset

   (b) prefer the use of fixed equipment over portable handheld equipment whenever practicable and reasonable

   (c) provide, as appropriate:

      (i) protective equipment

      (ii) equipment for individual monitoring and workplace monitoring

   (d) maintain control of all items of irradiating apparatus to prevent loss or damage and to prevent any person from carrying out unauthorised activities, including by:

      (i) maintaining an accurate inventory of all items of irradiating apparatus , including their location and description

      (ii) periodically checking that items of irradiating apparatus are under control and in the locations recorded in the inventory maintained under subclause 4(c)(i)

      (iii) releasing irradiating apparatus only to people who are authorised to assume management and control under the Act

   (e) take immediate steps to regain control of any item of irradiating apparatus that is abandoned, lost, misplaced, stolen or otherwise transferred without proper authorisation.

Training and authorisation

5. The managing entity must ensure that all people with responsibilities for protection and safety:

   (a) are qualified, educated and trained in protection and safety so that they understand their duties and can perform them competently

   (b) satisfy the training requirements set out in Appendix 2

   (c) are named in a current list with details of their qualifications, education and training

   (d) are notified of their duties in relation to protection and safety

   (e) are authorised to assume their roles and responsibilities.

Restricted activities

6. The managing entity must not, without the prior written approval of the Director, allow irradiating apparatus to be used for human imaging:

   (a) as a form of art or for publicity purposes

   (b) for occupational, legal or health insurance purposes, and undertaken without referring to clinical indication

   (c) to detect concealed objects.

Policies, procedures and local rules

7. The managing entity must establish, implement and maintain policies and procedures to meet the requirements of this code including, without limitation, policies and procedures:

   (a) to control access to areas where people can be exposed to radiation

   (b) to prevent people being exposed to the primary radiation beam

   (c) to prohibit the bypass of safety interlocks in normal operating conditions

   (d) to use constraints to optimise protection and safety

   (e) to prevent accidents and mitigate the consequences of any that occur

   (f) to report on and learn from accidents and other incidents

   (g) to comply with operational limits and conditions relating to public exposure

   (h) for staff who have indicated they may be pregnant

(i) to minimise unnecessary exposure to the embryo or fetus

(j) to provide protection and safety by applying preventive measures in the following hierarchy:

(i) engineered controls

(ii) administrative controls

(iii) personal protective equipment

(k) to set an investigation level and establish procedures to follow if such a level is exceeded

(l) to implement procedures for verifying compliance with this code

(m) to periodically review the overall effectiveness of measures for protection and safety.

8. The managing entity must maintain, publish and enforce any written local rules that are necessary for protection and safety.

Monitoring and measurement

9. The managing entity must establish and maintain:

(a) a programme of continuous individual monitoring whenever appropriate, adequate and feasible, which is sufficient to assess occupational exposures for workers who usually work in a controlled area or who may receive a dose exceeding 10 percent of the dose limits

(b) a programme of workplace monitoring that is sufficient to:

(i) evaluate radiation conditions in all workplaces

(ii) assess exposures in controlled areas and supervised areas that are not assessed under subclause 9(a)

(iii) review the classification of controlled areas and supervised areas

(c) a capability that is sufficient to monitor unexpected increases in radiation levels due to an incident attributed to a source or facility for which the managing entity is responsible

(d) other monitoring or measurement programmes as necessary to verify compliance with the requirements in this code.

10. To satisfy the monitoring and measurement requirements in clause 9, the managing entity must:

    (a) use appropriate monitoring equipment[1]

    (b) for continuous individual monitoring under subclause 9(a), use an external service or internal capability only if that service or capability:

        (i) is approved by the Director

        (ii) returns results to the managing entity within 20 working days of receiving all necessary raw information.

11. The managing entity must:

    (a) take all reasonable steps to obtain previous dose records

    (b) maintain records of all monitoring and verification of compliance, including:

        (i) records of occupational exposure during and after the worker's working life, at least until the worker attains or would have attained the age of 75 years, and for not less than 30 years after ceasing work where the worker was subject to occupational exposure

        (ii) records and estimated doses to members of the public

        (iii) records of the tests and calibrations carried out

    (c) provide records of occupational exposure to:

        (i) individual workers in respect of their own exposure

        (ii) subsequent employers of workers, subject to satisfying confidentiality criteria

        (iii) the Director on request or if the managing entity is no longer able to maintain records as required under subclause 11(b)

    (d) provide records of source monitoring and environmental monitoring to assess public exposure to:

        (i) members of the public on request

        (ii) the Director on request

        (iii) the Director immediately, if any levels exceed operational limits and conditions relating to public exposure or there is a significant increase in dose rate that could be attributed to the authorised practice.

[1] Care should be taken to select the correct monitoring equipment for pulsed radiation fields, eg, an ionisation chamber based survey meter.

Incidents, accidents and emergencies

12. The managing entity must:

    (a) take all practicable steps to minimise the likelihood of accidents, including a multilevel system of sequential, independent provisions for protection and safety, commensurate with the likelihood and magnitude of potential exposures

    (b) take timely action to mitigate the consequences of any accident that does occur and restore radiation equipment to a safe condition

    (c) promptly investigate any incident, including by:

        (i) calculating or estimating doses a person has received and, if applicable, the dose distribution within them

        (ii) identifying corrective actions required to prevent a recurrence

    (d) implement all corrective actions identified in subclause 12(c)(ii)

    (e) keep a written record of the incident, including the:

        (i) cause or suspected cause

        (ii) calculations made under subclause 12(c)(i)

        (iii) corrective actions identified under subclause 12(c)(ii)

        (iv) details of the implementation of corrective actions under subclause 12(d)

    (f) promptly notify any reportable incident to the Director.

13. If the safety assessment required by clause 2 indicates a reasonable likelihood of an emergency affecting either workers or members of the public, the managing entity must prepare an emergency plan to protect people and the environment, which includes:

    (a) arranging to promptly identify an emergency

    (b) determining the correct level of emergency response

    (c) providing individual monitoring and area monitoring and arranging for medical treatment

    (d) arranging to assess and mitigate any consequences of an emergency.

Records

14. The managing entity must maintain adequate records, and make them available as necessary, including:

    (a) the delegation of responsibilities of the managing entity

    (b) the names of all people with responsibility for protection and safety, including details of their qualifications, education and training

    (c) the quality assurance programme

    (d) information necessary to retrospectively assess doses

    (e) reports on investigations of unintended and accidental exposures

    (f) exemptions from this code granted under section 86(3) of the Act.

Quality assurance

15. The managing entity must establish a comprehensive quality assurance programme, including a documented audit at least annually, to provide confidence that the requirements in this code will be fulfilled.

Other parties

Radiation safety officer

16. The radiation safety officer must oversee the day-to-day implementation of regulatory requirements by the managing entity, including by:

    (a) maintaining radiation source inventory records

    (b) inspecting and maintaining engineering controls, safety features and warning features

    (c) overseeing access control for controlled areas

    (d) establishing and periodically reviewing arrangements for personal dosimetry, including maintaining and reviewing occupational dose records

    (e) performing routine operational checks of radiation survey meters and personal alarm monitors to ensure that the instruments are working properly

    (f) ensuring that everyone with responsibilities for radiation protection and safety is suitably trained in the use of irradiating apparatus and radiation protection, and that they receive regular refresher training

    (g) ensuring that emergency plans are established and practised

    (h) supervising workplace monitoring arrangements

    (i) establishing, issuing and periodically reviewing local rules

    (j) investigating higher-than-usual exposures and overexposures

    (k) investigating and reporting incidents, including accidents.

17. The radiation safety officer must work in close cooperation with qualified experts, if engaged, to ensure that all necessary duties and tasks are performed.

Qualified expert

18. The qualified expert, if engaged, must work in close cooperation with the radiation safety officer to ensure that all necessary duties and tasks are performed.

Manufacturer/supplier

19. The manufacturer/supplier must supply well-designed, well-manufactured and well-constructed irradiating apparatus, ancillary equipment and protective equipment that provides for protection and safety in accordance with the requirements of this code.

20. The manufacturer/supplier must make suitable arrangements with managing entities to share information on use and operating experience that may be important for protection and safety.

Servicing engineer

21. The servicing engineer must:

    (a) install and service irradiating apparatus competently, so that it complies with the requirements in clause 4

    (b) after installing or servicing the equipment, provide a written report to the managing entity describing the equipment fault (if any), the work done, parts replaced, adjustments made and any changes that may affect protection and safety.

Appendix 1: Cross-reference to Radiation Safety Act 2016

As required by section 87(1) of the Radiation Safety Act 2016, clauses in this code apply to the fundamental requirements in sections 9–12 of the Act as follows.

Section in Act	Clauses in code
9(1)	1–2, 5–8, 16–18
9(2)	1–5, 7–11, 14–18
9(3)	1–5, 7–11, 16–18
10(1)	4, 7–8, 14–21
10(2)	4, 12–13
10(3)	4, 7–8, 14–21
11	4
12	4

Appendix 2: Training requirements

	User	Radiation safety officer	Servicing engineer
Atomic structure, X-ray production and interaction of radiation	l	l	m
Nuclear structure and radioactivity	x	x	m
Radiological quantities and units	l	l	m
Physical characteristics of irradiating apparatus	m	m	m
Fundamentals of radiation detection	m	m	h
Principle and process of justification	l	m	x
Fundamentals of radiobiology, biological effects of radiation	l	l	l
Risks of cancer and hereditary disease	l	l	l
Risks of deterministic effects	l	m	l
General principles of radiation protection, including optimisation	m	m	m
Operational radiation protection	h	h	m
Particular staff radiation protection aspects	h	h	m
Risks from fetal exposure	l	m	l
Quality control and quality assurance	l	m	h
National regulations and international standards	m	h	h

Level of knowledge

x – no requirement

l – low level of knowledge (general awareness and understanding of principles)

m – medium level of knowledge (basic understanding of the topic sufficient to influence practices undertaken)

h – high level of knowledge (detailed knowledge and understanding sufficient to be able to educate others)

Appendix 3: Equipment requirements

General requirements

- An illuminated warning sign visible from all possible operator positions is:
  - activated when the radiation beam is on
  - interlocked with the generator so that failure of the lamp will terminate the production of radiation.
- A durable and legible label is affixed showing the equipment model and serial number.
- Signage or labelling is affixed warning of the possible presence of radiation.
- The dose rate due to leakage and scatter radiation is less than 25 uGy/h at any accessible surface on the equipment when the irradiating apparatus is operated at any of the permitted ratings specified by the manufacturer.
- Access is key-operated or password-protected to prevent unauthorised operation.

X-ray analysis equipment

In addition to the general requirements above:

- It is not possible to remove shutters and their operating mechanisms without the use of tools.
- In normal operating conditions:
  - it is not possible for any workers operating the equipment to be exposed to the primary radiation beam, or
  - a local rule is established and enforced to prevent any such exposure.
- For X-ray diffraction equipment:
  - each independently operated shutter has a distinct warning light, and is interlocked so that it cannot open unless diffraction equipment, which will completely intercept the primary beam, is in position at the beam port
  - for all equipment that allows routing changing of samples in the path of the primary X-ray beam, the sample position is not accessible when the beam is on.
- For handheld XRF equipment either:
  - a proximity sensor prevents X-rays being generated without a sample held against the aperture, or
  - where this is not practicable, a low-count (backscatter) interlock is fitted.[2]

[2] Ideally, both safety systems should be fitted.

X-ray inspection equipment

In addition to the general requirements above:

- the radiation beam can be precisely collimated
- interlocked systems can prevent inadvertent exposures, if applicable
- preset technique factors are available for each mode of operation
- emergency stop buttons are available, if applicable.

Submission form

Your details

This submission was completed by: *(name)* _____

Address: *(street/box number)* _____

(town/city) _____

Email: _____

Organisation *(if applicable)*: _____

Position *(if applicable)*: _____

Additional information

I am, or I represent an organisation that is, based in:

☐ New Zealand ☐ Australia ☐ Other *(please specify)*: _____

I am, or I represent, a: *(tick all that apply)*

☐ Servicing engineer

☐ Radiation security officer

☐ Organisation that uses/stores material

☐ Other *(please specify)*: _____

Privacy

We may publish submissions on the Ministry's website. If you are submitting as an individual, we will automatically remove your personal details and any identifiable information.

If you do not want your submission published on the Ministry's website, please tick this box:

☐ Do not publish this submission.

Your submission will be subject to requests made under the Official Information Act. If you want your personal details removed from your submission, please tick this box:

☐ Remove my personal details from responses to Official Information Act requests.

Please return this form:

By email to: orsenquiries@health.govt.nz (including 'irradiating apparatus material code' in the subject line)

By post to: Office of Radiation Safety, PO Box 5013, Wellington 6140.

Consultation questions

The Office of Radiation Safety is seeking comments on the following.

Scope

1. Do you agree that the scope of this code is appropriate?

   ☐ Yes

   ☐ No

   If no, please provide alternative suggestions for the scope of this code.

Roles and responsibilities

2. Are the roles and responsibilities of key parties adequately described?

   ☐ Yes

   ☐ No

   If no, please provide details of parties that should/should not be included and any changes that should be made to the descriptions.

Definitions

3. Are the definitions appropriate and comprehensive?

   ☐ Yes

   ☐ No

   If no, please provide suggestions for any new terms to be defined or changes to existing definitions.

Managing entity obligations

4. a. Are the subheadings within the 'Managing entity' section appropriate?

☐ Yes

☐ No

b. Are there other changes you think are necessary to the obligations of the managing entity?

☐ Yes

☐ No

c. Please provide any comments below.

Other parties

5. a. Are there other parties who should have defined responsibilities?

☐ Yes

☐ No

b. Are there other changes you think are necessary to the obligations of other parties?

☐ Yes

☐ No

c. Please provide any comments below.

Appendix 2: Training requirements

6. a. Is the information in this appendix appropriate and comprehensive?

☐ Yes

☐ No

b. Please provide any comments below.

Appendix 3: Equipment requirements

7. a. Is the information in this appendix appropriate and comprehensive?
   - ☐ Yes
   - ☐ No

   b. Please provide any comments below.

Additional comments

8. a. Was the information in this code appropriately presented?
   - ☐ Yes
   - ☐ No

   b. Was the information in this code easy to find?
   - ☐ Yes
   - ☐ No

   c. Are there any changes you would like to suggest?
   - ☐ Yes
   - ☐ No

   d. Are there circumstances that are not included in this code but should be? If yes, please provide more details in the comments box below.
   - ☐ Yes
   - ☐ No

   e. Is the information easily understood?
   - ☐ Yes
   - ☐ No

   f. Is there any other information or subject that should be included in this code?
   - ☐ Yes
   - ☐ No

   g. Please provide any comments related to your answers to 8(a)–(f) below.