Information for Persons Seeking Accreditation Certificates

(Radiation Sources)
Introduction

The Radiation Safety Act 1999 requires possession licensees to obtain a certificate of compliance for each radiation source and associated premises, to demonstrate that the source and premises comply or continues to comply with the relevant radiation safety standard. Only persons who hold an appropriate accreditation certificate may issue a certificate of compliance stating that a radiation source or premises meets the applicable radiation safety standard.

In deciding whether an applicant is suitable to hold an accreditation certificate, the Chief Executive must consider the applicant’s qualifications, training, skills, knowledge and experience that are relevant to the applicant’s ability to assess whether a radiation source or premises comply with the relevant radiation safety standard.

Approved Radiation Safety Courses

A list of approved radiation safety courses suitable for persons seeking an accreditation certificate allowing them to certify certain radiation sources, is available on request from Radiation Health.

Persons who have completed a course which has not been approved should submit full details of the course for consideration by Radiation Health.

Procedure for Application

An application for an accreditation certificate must be made to the Chief Executive, Queensland Health through the licensing officer, Radiation Health. Application forms are available from Radiation Health by phoning (07) 3406 8000.

Certificates granted remain current for the term specified on the certificate and are subject to all conditions in the legislation and any additional conditions attached to the certificate. Applications for renewal of accreditation certificates must be made prior to the expiry of the current certificate.

Eligibility for Accreditation Certificates

This information guide outlines how applicants may gain an accreditation certificate for:

1. Industrial gauges
2. Industrial radiography equipment
3. Chemical analysers containing radioactive substances
4. Chemical x-ray analysis equipment
5. Borehole logging devices
6. Moisture/density gauges
7. Cabinet x-ray equipment
8. Plain film diagnostic radiography equipment used for animals/inanimate objects
9. Laser apparatus
10. Plain film diagnostic radiography equipment (excluding computed tomography, mammography, fluoroscopy and intra-oral dental radiography equipment)
11. Fluoroscopy x-ray equipment
12. Mammography x-ray equipment
13. Computed tomography x-ray equipment

Enquiries

For further information, please contact an officer at Radiation Health on (07) 3406 8000 or, alternatively, via email at radiation_health@health.qld.gov.au.
1. Industrial Gauges

This section has been developed to assist persons who wish to apply for an accreditation certificate for:

(i) sealed radioactive substances incorporated in sealed source apparatus used to carry out industrial gauging
(ii) radiation apparatus used to carry out industrial gauging.

Knowledge and practical competencies

The knowledge and practical competencies required to obtain an accreditation certificate allowing a person to certify the safety of industrial gauges are listed below.

Knowledge and understanding

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of radiation sources, and the use and operation of radiation apparatus and sealed source apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Knowledge and understanding of the requirements under the Radiation Safety Act 1999, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Ability to interpret and apply applicable codes of practice and standards.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess industrial gauges against radiation safety standards (NM006 Standard For Radiation Apparatus Used To Carry Out Industrial Gauging and/or NM009 Standard For Sealed Radioactive Substances Incorporated In Sealed Source Apparatus Used To Carry Out Industrial Gauging).

Eligibility for a certificate

A person may be granted an accreditation certificate for industrial gauges after satisfying all of the following criteria.

1. The applicant must:

   (a) hold a degree in physics with significant components in the area of radiation physics; or

   (b) hold, or have held, a licence, issued under the Radiation Safety Act 1999 or similar Act, to use industrial gauges for maintenance, installation and/or repair. The applicant must have held such a licence within three years of the application being submitted; or

   (c) have satisfactorily completed a radiation safety course, specifically approved by the Director, Radiation Health for the training of persons seeking an accreditation certificate allowing the radiation safety certification of industrial gauges, within three years of the application being submitted.

2. The applicant must provide evidence (eg. provision of worksheets, reports) that he or she has assessed industrial gauges to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:
• demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
• demonstrate knowledge of radiation safety and appropriate parts of the legislation
• compliance test a radiation source and complete an assessment report.
2. **Industrial Radiography Equipment**

This section aims to assist persons applying for an accreditation certificate for:

(i) sealed radioactive substances incorporated in sealed source apparatus used to carry out industrial radiography  
(ii) radiation apparatus used to carry out industrial radiography.

**Knowledge and practical competencies**

Knowledge and practical competencies required to obtain an accreditation certificate to certify the safety of industrial radiography equipment are listed below.

**Knowledge and understanding**

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.  
- Knowledge of the properties of radiation sources, and the use and operation of radiation apparatus and sealed source apparatus.  
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.  
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.  
- Knowledge and understanding of the requirements under the *Radiation Safety Act 1999*, the relevant radiation safety standards under the Act and relevant codes of practice.  
- Ability to interpret and apply applicable codes of practice and standards.

**Practical competencies and skills**

Applicants for this type of certificate will need to demonstrate an ability to assess industrial radiography equipment against radiation safety standards (NM004 *Standard For Radiation Apparatus Used To Carry Out Industrial Radiography* and/or NM007 *Standard For Sealed Radioactive Substances Incorporated In Sealed Source Apparatus Used To Carry Out Industrial Radiography*).

**Eligibility for a certificate**

A person may be granted an accreditation certificate for industrial radiography equipment after satisfying all of the following criteria.

1. The applicant must:  
   (a) hold a degree in physics with significant components in the area of radiation physics; or  
   (b) hold, or have held, a licence, issued under the *Radiation Safety Act 1999* or similar Act, to use industrial radiography equipment for maintenance and/or repair. The applicant must have held such a licence within three years of the application being submitted; or  
   (c) have satisfactorily completed a radiation safety course, specifically approved by the Director, Radiation Health for the training of persons seeking an accreditation certificate allowing the radiation safety certification of industrial radiography equipment, within three years of the application being submitted.

2. The applicant must provide evidence (eg. provision of worksheets, reports) that he or she has assessed industrial radiography equipment to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this
assessment, the applicant may be asked to:

- demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
- demonstrate knowledge of radiation safety and appropriate parts of the legislation
- compliance test a radiation source and complete an assessment report.
3. Chemical Analysers Containing Radioactive Substances

This section aims to assist persons who wish to apply for an accreditation certificate for sealed radioactive substances incorporated in sealed source apparatus used to carry out chemical analysis (chemical analysers).

Knowledge and practical competencies

Knowledge and practical competencies required to obtain an accreditation certificate allowing a person to certify the safety of chemical analysers are listed below.

Knowledge and understanding

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of radiation sources, and the use and operation of sealed source apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Knowledge and understanding of the requirements under the Radiation Safety Act 1999, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Ability to interpret and apply applicable codes of practice and standards.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess chemical analysers against radiation safety standard NM008 Standard For Sealed Radioactive Substances Incorporated In Sealed Source Apparatus Used To Carry Out Chemical Analysis.

Eligibility for a certificate

A person may be granted an accreditation certificate for sealed source apparatus used to carry out chemical analysis after satisfying all of the following criteria.

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of radiation physics; or
   (b) hold, or have held, a licence, issued under the Radiation Safety Act 1999 or similar Act, to use chemical analysers for maintenance, and/or repair. The applicant must have held such a licence within three years of the application being submitted; or
   (c) have satisfactorily completed a radiation safety course, specifically approved by the Director, Radiation Health for the training of persons seeking an accreditation certificate allowing the radiation safety certification of sealed source apparatus used for chemical analysis, within three years of the application being submitted.

2. The applicant must provide evidence (eg. provision of worksheets, reports) that he or she has assessed chemical analysers to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:
   - demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
   - demonstrate knowledge of radiation safety and appropriate parts of the legislation
   - compliance test a radiation source and complete an assessment report.
4. Chemical X-ray Analysers

This section aims to assist persons who wish to apply for an accreditation certificate for radiation apparatus used to carry out chemical analysis (chemical x-ray analysers).

Knowledge and practical competencies

Knowledge and practical competencies required to obtain an accreditation certificate allowing a person to certify the safety of chemical x-ray analysers are listed below.

Knowledge and understanding
- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of x-rays, the control factors affecting the x-ray beam, and the use and operation of radiation apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Knowledge and understanding of the requirements under the Radiation Safety Act 1999, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Ability to interpret and apply applicable codes of practice and standards.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess chemical x-ray analysers against radiation safety standard NM005 Standard For Radiation Apparatus Used To Carry Out Chemical Analysis.

Eligibility for a certificate

A person may be granted an accreditation certificate for radiation apparatus used to carry out chemical analysis after satisfying all of the following criteria.

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of radiation physics; or
   (b) hold, or have held, a licence, issued under the Radiation Safety Act 1999 or similar Act, to use chemical x-ray analysers for maintenance, installation and/or repair. The applicant must have held such a licence within three years of the application being submitted; or
   (c) have satisfactorily completed a radiation safety course, specifically approved by the Director, Radiation Health for the training of persons seeking an accreditation certificate allowing the radiation safety certification of chemical x-ray analysers, within three years of the application being submitted.

2. The applicant must provide evidence (eg. provision of worksheets, reports) that he or she has assessed chemical x-ray analysers to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:
   - demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
   - demonstrate knowledge of radiation safety and appropriate parts of the legislation
   - compliance test a radiation source and complete an assessment report.
5. Borehole Logging Devices

This section aims to assist persons who wish to apply for an accreditation certificate for sealed radioactive substances incorporated in sealed source apparatus used to carry out borehole logging (borehole logging devices).

Knowledge and practical competencies

Knowledge and practical competencies required to obtain an accreditation certificate allowing a person to certify the safety of borehole logging devices are listed below.

Knowledge and understanding

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of radiation sources, and the use and operation of sealed source apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Knowledge and understanding of the requirements under the Radiation Safety Act 1999, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Ability to interpret and apply applicable codes of practice and standards.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess borehole logging devices against radiation safety standard NM010 Standard For Sealed Radioactive Substances Incorporated In Sealed Source Apparatus Used To Carry Out Borehole Logging.

Eligibility for a certificate

A person may be granted an accreditation certificate for sealed source apparatus used to carry out borehole logging after satisfying all of the following criteria.

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of radiation physics; or
   (b) hold, or have held, a licence, issued under the Radiation Safety Act 1999 or similar Act, to use borehole logging devices for maintenance and/or repair. The applicant must have held such a licence within three years of the application being submitted; or
   (c) have satisfactorily completed a radiation safety course, specifically approved by the Director, Radiation Health for the training of persons seeking an accreditation certificate allowing the radiation safety certification of borehole logging devices, within three years of the application being submitted.

2. The applicant must provide evidence (eg. provision of worksheets, reports) that he or she has assessed borehole logging devices to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:
   - demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
   - demonstrate knowledge of radiation safety and appropriate parts of the legislation
   - compliance test a radiation source and complete an assessment report.
6. Moisture/Density Gauges

This section aims to assist persons who wish to apply for an accreditation certificate for sealed radioactive substances incorporated in sealed source apparatus used to carry out moisture/density measurements (moisture/density gauges).

Knowledge and practical competencies

Knowledge and practical competencies required to obtain an accreditation certificate allowing for moisture/density gauges are listed below.

Knowledge and understanding

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of radiation sources, and the use and operation of sealed source apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Knowledge and understanding of the requirements under the Radiation Safety Act 1999, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Ability to interpret and apply applicable codes of practice and standards.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess moisture/density gauges against radiation safety standard NM011 Standard For Sealed Radioactive Substances Incorporated In Sealed Source Apparatus Used To Carry Out Moisture/Density Measurements.

Eligibility for a certificate

A person may be granted an accreditation certificate for sealed source apparatus used to carry out moisture/density gauges after satisfying all of the following criteria.

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of radiation physics; or
   (b) hold, or have held, a licence, issued under the Radiation Safety Act 1999 or similar Act, to use moisture/density gauges for maintenance and/or repair. The applicant must have held such a licence within three years of the application being submitted; or
   (c) have satisfactorily completed a radiation safety course, specifically approved by the Director, Radiation Health for the training of persons seeking an accreditation certificate allowing the radiation safety certification of moisture/density gauges, within three years of the application being submitted.

2. The applicant must provide evidence (eg. provision of worksheets, reports) that he or she has assessed moisture/density gauges to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:
   - demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
   - demonstrate knowledge of radiation safety and appropriate parts of the legislation
   - compliance test a radiation source and complete an assessment report.
7. Cabinet Radiation Apparatus

This section aims to assist persons who wish to apply for an accreditation certificate for cabinet radiation apparatus used to carry out fluoroscopic or radiographic imaging of inanimate objects.

Knowledge and practical competencies

Knowledge and practical competencies required to obtain an accreditation certificate allowing them to certify the safety of cabinet radiation apparatus are listed below.

Knowledge and understanding

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of x-rays, the control factors affecting the x-ray beam, and the use and operation of radiation apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Knowledge and understanding of the requirements under the Radiation Safety Act 1999, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Ability to interpret and apply applicable codes of practice and standards.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess cabinet radiation apparatus against radiation safety standard NM002 Standard For Cabinet Radiation Apparatus Used To Carry Out Fluoroscopic Or Radiographic Imaging Of Inanimate Objects.

Eligibility for a certificate

A person may be granted an accreditation certificate for cabinet radiation apparatus after satisfying all of the following criteria.

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of radiation physics; or
   (b) hold, or have held, a licence, issued under the Radiation Safety Act 1999 or similar Act, to use cabinet radiation apparatus for maintenance, installation and/or repair. The applicant must have held such a licence within three years of the application being submitted; or
   (c) have satisfactorily completed a radiation safety course, specifically approved by the Director, Radiation Health for the training of persons seeking an accreditation certificate allowing the radiation safety certification of cabinet radiation apparatus, within three years of the application being submitted.

2. The applicant must provide evidence (eg. provision of worksheets, reports) that he or she has assessed cabinet radiation apparatus to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:
   - demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
   - demonstrate knowledge of radiation safety and appropriate parts of the legislation
   - compliance test a radiation source and complete an assessment report.
8. Plain Film Diagnostic Radiography Equipment Used For Animals/Inanimate Objects

This section aims to assist persons who wish to apply for an accreditation certificate for:

(i) radiation apparatus used to carry out plain film radiography of inanimate objects
(ii) radiation apparatus used to carry out plain film radiography on animals.

Knowledge and practical competencies

Knowledge and practical competencies required to obtain an accreditation certificate allowing a person to certify the safety of radiation apparatus used to carry out plain film radiography on animals or inanimate objects are listed below.

Knowledge and understanding

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of x-rays, the control factors affecting the x-ray beam, and the use and operation of radiation apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Ability to interpret and apply applicable codes of practice and standards.
- Understanding of the structure and function of x-ray film and intensifying screens, darkroom design and safety and automatic film processing.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess diagnostic x-ray equipment against radiation safety standard NM001 Standard For Radiation Apparatus Used To Carry Out Plain Film Radiography Of Inanimate Objects and/or NM003 Standard For Radiation Apparatus Used To Carry Out Diagnostic Radiography Of Animals.

Eligibility for a certificate

A person may be granted an accreditation certificate for radiation apparatus used to carry out plain film radiography on animals or inanimate objects after satisfying one of the following alternatives.

Alternative one

The applicant must be the holder of an accreditation in radiological physics from the Australasian College of Physical Scientists and Engineers in Medicine. If the applicant has been accredited in radiological physics for more than three years, the applicant must demonstrate continued involvement in the assessment of radiation apparatus for the previous year.

Alternative two

The applicant must hold, or have held, an accreditation certificate, issued under the Radiation Safety Act 1999 or similar Act, to certify radiation apparatus used to carry out diagnostic radiography or plain film diagnostic radiography. The applicant must have held such a certificate within three years of the application being submitted.
Alternative three

The applicant must satisfy all of the following criteria:

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of radiation physics; or
   (b) hold, or have held, a licence, issued under the Radiation Safety Act 1999 or similar Act, to use diagnostic x-ray equipment for maintenance, installation and/or repair. The applicant must have held such a licence within three years of the application being submitted.

2. The applicant must:
   (a) be certified in quality assurance in diagnostic radiology by the University of Sydney within three years of the application being submitted; or
   (b) provide evidence (eg. provision of worksheets, reports) that he or she has assessed diagnostic x-ray equipment to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:
   - demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
   - demonstrate knowledge of radiation safety and appropriate parts of the legislation
   - compliance test a radiation source and complete an assessment report.
9. Laser Apparatus

This section aims to assist persons who wish to apply for an accreditation certificate for laser apparatus used to carry out cosmetic or health related procedures on human beings.

Knowledge and practical competencies

Knowledge and practical competencies required to obtain an accreditation certificate allowing a person to certify the safety of laser apparatus are listed below.

Knowledge and understanding

- Knowledge of the biological effects of non-ionising radiation and the principles of radiation protection.
- Knowledge of the properties of laser apparatus, the control factors affecting the laser beam, and the use and operation of laser apparatus.
- Knowledge of safety devices and personal protective equipment for operators and patients.
- Knowledge and understanding of the requirements under the Radiation Safety Act 1999, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Understanding of safety devices and personal protective equipment.
- Understanding of the role and responsibilities of the radiation safety officer.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess laser apparatus against radiation safety standard HR006 Standard For Class 4 Lasers Used To Carry Out Cosmetic Or Health Related Procedures On Human Beings.

Eligibility for a certificate

A person may be granted an accreditation certificate for laser apparatus used to carry out cosmetic or health related procedures on human beings after satisfying all of the following criteria.

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of laser physics; or
   (b) hold, or have held, a licence, issued under the Radiation Safety Act 1999 or similar Act, to use laser apparatus for maintenance, installation and/or repair. The applicant must have held such a licence within three years of the application being submitted; or
   (c) have satisfactorily completed a radiation safety course, specifically approved by the Director, Radiation Health for the training of persons seeking an accreditation certificate allowing the radiation safety certification of laser apparatus, within three years of the application being submitted.

2. The applicant must provide evidence (eg. provision of worksheets, reports) that he or she has assessed laser apparatus to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:
   - demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
   - demonstrate knowledge of radiation safety and appropriate parts of the legislation
   - compliance test a radiation source and complete an assessment report.
10. Plain Film Diagnostic Radiography Equipment

This section aims to assist persons who wish to apply for an accreditation certificate for plain film diagnostic radiation apparatus used to carry out plain film diagnostic radiography, excluding computed tomography, mammography, fluoroscopy and intra-oral dental diagnostic radiography (plain film diagnostic radiography equipment).

Knowledge and practical competencies

Knowledge and practical competencies required to obtain an accreditation certificate allowing a person to certify the safety of plain film diagnostic radiography equipment are listed below.

Knowledge and understanding

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of x-rays, the control factors affecting the x-ray beam, and the use and operation of radiation apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Knowledge and understanding of the requirements under the Radiation Safety Act 1999, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Ability to interpret and apply applicable codes of practice and standards.
- Understanding of the structure and function of x-ray film and intensifying screens, darkroom design and safety and automatic film processing.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess plain film diagnostic radiography equipment against radiation safety standard HR001 Standard For Radiation Apparatus Used To Carry Out Diagnostic Radiography, Excluding Computed Tomography, Mammography, Fluoroscopy And Intra-Oral Dental Diagnostic Radiography.

Eligibility for a certificate

A person may be granted an accreditation certificate for radiation apparatus used to carry out plain film diagnostic radiography after satisfying one of the following alternatives.

Alternative one

The applicant must be the holder of an accreditation in radiological physics from the Australasian College of Physical Scientists and Engineers in Medicine. If the applicant has been accredited in radiological physics for more than three years, the applicant must demonstrate continued involvement in the assessment of radiation apparatus for the previous year.

Alternative two

The applicant must satisfy all of the following criteria.

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of radiation physics; or
   (b) hold, or have held, a licence, issued under the Radiation Safety Act 1999 or similar Act, to use diagnostic x-ray equipment for maintenance, installation and/or repair. The applicant must have held such a licence within three years of the application being submitted.

2. The applicant must:
(a) be certified in quality assurance in diagnostic radiology by the University of Sydney within three years of the application being submitted; or

(b) provide evidence (eg. provision of worksheets, reports) that he or she has assessed diagnostic x-ray equipment to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:

- demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
- demonstrate knowledge of radiation safety and appropriate parts of the legislation
- compliance test a radiation source and complete an assessment report.
11. Fluoroscopy X-ray Equipment

This section aims to assist persons who wish to apply for an accreditation certificate for radiation apparatus used to carry out fluoroscopy (fluoroscopy X-ray equipment).

Knowledge and practical competencies

Knowledge and practical competencies required to obtain an accreditation certificate allowing a person to certify the safety of radiation apparatus used to carry out fluoroscopy are listed below.

Knowledge and understanding

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of x-rays, the control factors affecting the x-ray beam, and the use and operation of radiation apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Knowledge and understanding of the requirements under the Radiation Safety Act 1999, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Ability to interpret and apply applicable codes of practice and standards.
- Understanding of the structure and function of x-ray film and intensifying screens, darkroom design and safety and automatic film processing.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess fluoroscopy x-ray equipment against radiation safety standard HR002 Standard For Radiation Apparatus Used To Carry Out Fluoroscopy.

Eligibility for a certificate

A person may be granted an accreditation certificate for radiation apparatus used to carry out fluoroscopy after satisfying one of the following alternatives.

Alternative one

The applicant must be the holder of an accreditation in radiological physics from the Australasian College of Physical Scientists and Engineers in Medicine. If the applicant has been accredited in radiological physics for more than three years, the applicant must demonstrate continued involvement in the assessment of radiation apparatus for the previous year.

Alternative two

The applicant must satisfy all of the following criteria.

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of radiation physics; or
   (b) hold, or have held, a licence, issued under the Radiation Safety Act 1999 or similar Act, to use fluoroscopy x-ray equipment for maintenance, installation and/or repair. The applicant must have held such a licence within three years of the application being submitted.

2. The applicant must:
   (a) be certified in quality assurance in diagnostic radiology by the University of Sydney within three
years of the application being submitted; or

(b) provide evidence (eg. provision of worksheets, reports) that he or she has assessed diagnostic x-ray equipment to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:

- demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
- demonstrate knowledge of radiation safety and appropriate parts of the legislation
- compliance test a radiation source and complete an assessment report.
12. Mammography X-ray Equipment

This section aims to assist persons who wish to apply for an accreditation certificate for radiation apparatus used to carry out mammography (mammography x-ray equipment).

Knowledge and practical competencies

Knowledge and practical competencies required to obtain an accreditation certificate allowing a person to certify the safety of radiation apparatus used to carry out mammography are listed below.

Knowledge and understanding

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of x-rays, the control factors affecting the x-ray beam, and the use and operation of radiation apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Knowledge and understanding of the requirements under the Radiation Safety Act 1999, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Ability to interpret and apply applicable codes of practice and standards.
- Understanding of the structure and function of x-ray film and intensifying screens, darkroom design and safety and automatic film processing.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess mammography x-ray equipment against radiation safety standard HR004 Standard For Radiation Apparatus Used To Carry Out Film-Screen Mammography.

Eligibility for a certificate

A person may be granted an accreditation certificate for radiation apparatus used to carry out mammography after satisfying one of the following alternatives.

Alternative one

The applicant must be certified as an equipment assessor for the Royal Australian and New Zealand College of Radiologists (RANZCR) Mammography Quality Assurance Program by the Australasian College of Physical Scientists and Engineers in Medicine. If the applicant has been certified as an equipment assessor for more than three years, the applicant must demonstrate continued involvement in the assessment of radiation apparatus for the previous year.

Alternative two

The applicant must be the holder of an accreditation in radiological physics from the Australasian College of Physical Scientists and Engineers in Medicine. If the applicant has been accredited in radiological physics for more than three years, the applicant must demonstrate continued involvement in the assessment of radiation apparatus for the previous year.

Alternative three

The applicant must satisfy all of the following criteria.

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of radiation physics; or
(b) hold, or have held, a licence, issued under the *Radiation Safety Act 1999* or similar Act, to use mammography x-ray equipment for maintenance, installation and/or repair. The applicant must have held such a licence within three years of the application being submitted.

2. The applicant must:

(a) be certified in Quality Assurance in Diagnostic Radiology by the University of Sydney within three years of the application being submitted; or

(b) provide evidence (eg. provision of worksheets, reports) that he or she has assessed mammography X-ray equipment to the radiation safety standard, or similar. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:

- demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
- demonstrate knowledge of radiation safety and appropriate parts of the legislation
- compliance test a radiation source and complete an assessment report.
13. Computed Tomography X-ray Equipment

This section aims to assist persons who wish to apply for an accreditation certificate for radiation apparatus used to carry out computed tomography (computed tomography x-ray equipment).

Knowledge and practical competencies

Knowledge and practical competencies required to obtain an accreditation certificate allowing a person to certify the safety of computed tomography x-ray equipment are listed below.

Knowledge and understanding

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of x-rays, the control factors affecting the x-ray beam, and the use and operation of radiation apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Knowledge and understanding of the requirements under the Radiation Safety Act 1999, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Ability to interpret and apply applicable codes of practice and standards.
- Understanding of the structure and function of x-ray film and intensifying screens, darkroom design and safety and automatic film processing.

Practical competencies and skills

Applicants for this type of certificate will need to demonstrate that they are able to assess computed tomography x-ray equipment against radiation safety standard HR003 Standard For Radiation Apparatus Used To Carry Out Computed Tomography.

Eligibility for a certificate

A person may be granted an accreditation certificate for radiation apparatus used to carry out computed tomography after satisfying one of the following alternatives.

Alternative one

The applicant must be the holder of an accreditation in radiological physics from the Australasian College of Physical Scientists and Engineers in Medicine. If the applicant has been accredited in radiological physics for more than three years, the applicant must demonstrate continued involvement in the assessment of radiation apparatus for the previous year.

Alternative two

The applicant must satisfy all of the following criteria:

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of radiation physics; or
   (b) hold, or have held, a licence, issued under the Radiation Safety Act 1999 or similar Act, to use computed tomography x-ray equipment for maintenance, installation and/or repair. The applicant must have held such a licence within three years of the application being submitted.

2. The applicant must:
   (a) be certified in quality assurance in diagnostic radiology by the University of Sydney within three
years of the application being submitted; or

(b) provide evidence (eg. provision of worksheets, reports) that he or she has assessed computed tomography x-ray equipment to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:

- demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
- demonstrate knowledge of radiation safety and appropriate parts of the legislation
- compliance test a radiation source and complete an assessment report.
14. **Intra-oral Dental X-ray Equipment**

This section aims to assist persons who wish to apply for an accreditation certificate for radiation apparatus used to carry out intra-oral dental diagnostic radiography (intra-oral dental X-ray equipment).

**Knowledge and practical competencies**

Knowledge and practical competencies required to obtain an accreditation certificate allowing them to certify the safety of radiation apparatus used to carry out intra-oral dental diagnostic radiography are listed below.

*Knowledge and understanding*

- Knowledge of the biological effects of ionising radiation, the principles of radiation protection and personal radiation monitoring.
- Knowledge of the properties of x-rays, the control factors affecting the x-ray beam, and the use and operation of radiation apparatus.
- Understanding of how radiation is measured and monitored and how to interpret radiation measurements.
- Understanding of how radiation monitoring equipment is calibrated and checked for consistency.
- Knowledge and understanding of the requirements under the *Radiation Safety Act 1999*, the relevant radiation safety standards made under the Act and relevant codes of practice.
- Ability to interpret and apply applicable codes of practice and standards.
- Understanding of the structure and function of x-ray film and intensifying screens, darkroom design and safety and automatic film processing.

*Practical competencies and skills*

Applicants for this type of certificate will need to demonstrate that they are able to assess intra-oral dental diagnostic radiography equipment against radiation safety standard HR005 *Standard For Radiation Apparatus Used To Carry Out Intra-Oral Dental Diagnostic Radiography.*

**Eligibility for a certificate**

A person may be granted an accreditation certificate for radiation apparatus used to carry out intra-oral dental diagnostic radiography after satisfying one of the following alternatives.

*Alternative one*

The applicant must be certified in intra-oral dental diagnostic radiography compliance testing by the Queensland Branch of the Australasian College of Physical Scientists and Engineers in Medicine. If the applicant has been certified for more than three years, the applicant must demonstrate continued involvement in the assessment of radiation apparatus for the previous year.

*Alternative two*

The applicant must be the holder of an accreditation in radiological physics from the Australasian College of Physical Scientists and Engineers in Medicine. If the applicant has been accredited in radiological physics for more than three years, the applicant must demonstrate continued involvement in the assessment of radiation apparatus for the previous year.

*Alternative three*

The applicant must satisfy all of the following criteria.

1. The applicant must:
   (a) hold a degree in physics with significant components in the area of radiation physics; or
   (b) hold, or have held, a licence, issued under the *Radiation Safety Act 1999* or similar Act, to use intra-oral dental diagnostic radiography equipment for maintenance, installation and/or repair. The applicant must have held such a licence within three years of the application being submitted.
2. The applicant must:

(a) be certified in dental radiology – equipment registration testing by the University of Sydney within three years of the application being submitted; or

(b) be certified in quality assurance in diagnostic radiology by the University of Sydney within three years of the application being submitted; or

(c) provide evidence (eg. provision of worksheets, reports) that he or she has assessed diagnostic x-ray equipment to the radiation safety standard, or similar, within one year of the application being submitted. Verification of this experience must also be submitted by an appropriate person, for example, a person who has held an equivalent accreditation certificate for at least two years and who has been deemed suitable by the Assistant Director.

3. The applicant must demonstrate that he or she satisfies the required competencies for the certificate type sought by undertaking an assessment conducted by Radiation Health. Typically, this assessment will require a face to face written, oral and practical examination. As part of this assessment, the applicant may be asked to:

- demonstrate knowledge of the design, construction, operation and reason for use of the radiation source
- demonstrate knowledge of radiation safety and appropriate parts of the legislation
- compliance test a radiation source and complete an assessment report.