

IONISING RADIATION SOURCES: PURCHASE AND LICENSING PROCEDURES

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1. PURPOSE

The purpose of these procedures is to ensure awareness and compliance with licensing obligations of all units working with ionising radiation sources at Monash University, in accordance with the requirements of the Radiation Act 2005, Radiation Regulations 2007 and the Occupational Health and Safety Act (2004).

2. SCOPE

The guidance, procedures and processes outlined in this document apply to staff, students, visitors and contractors at the Australian campuses of Monash University and to Monash controlled entities.

3. ABBREVIATIONS

GBq	Giga Becquerel
kVp	Peak kilovoltage
mA	Milliampere
OH&S	Occupational Health & Safety Branch
RPO	Radiation Protection Officer
RSO	Radiation Safety Officer

4. DEFINITIONS

4.1 HEAD OF ACADEMIC/ADMINISTRATIVE UNIT

Head of academic/administrative unit is used to denote the head of the area that is undertaking the activity. For academic areas, this term includes head of faculty, department, school, institute or centre. For administrative areas, the term includes head of division, branch, centre or unit.

4.2 IONISING RADIATION

Ionising radiation is defined as electromagnetic or particulate radiation capable of producing ions directly or indirectly but does not include electromagnetic radiation of a wavelength of greater than 100 nanometres.

4.3 IONISING RADIATION SOURCE

For the purposes of this document an ionising radiation source is defined as radioactive material, an irradiating apparatus, a sealed source or a sealed source apparatus.

4.4 IRRADIATING APPARATUS

For the purposes of this document, irradiating apparatus is defined as an apparatus that produces ionising radiation when energised (eg an X-ray tube) but does not include a sealed source apparatus. An x-ray machine is an example of an irradiating apparatus.

4.5 MONASH CONTROLLED ENTITY

Monash controlled entities (eg companies) include entities where Monash can control decision making, directly or indirectly, in relation to the financial and operating policies so as to enable the entity to operate with it in pursuing the objectives of Monash University.

For the remainder of this document, a Monash controlled entity will be referred to as a controlled entity.

4.6 RADIATION PROTECTION OFFICER

The Radiation Protection Officer is the OHS staff member responsible for providing and coordinating radiation protection services at Monash University.

4.7 RADIATION SAFETY OFFICER

A radiation safety officer is a designated staff member in a unit/entity responsible for approving and supervising the ionising radiation work and study of staff and students.

4.8 SEALED SOURCE

A sealed source is a radioactive material that is permanently sealed in a capsule or closely bound and in solid form.

4.9 SEALED SOURCE APPARATUS

Sealed source apparatus are apparatus that produce ionising radiation because they contain a sealed source. A liquid scintillation counter with an internal sealed source is an example of a sealed source apparatus.

4.10 UNSEALED SOURCE

For the purposes of this document, an unsealed source is a radioactive substance that is not a sealed source.

5. SPECIFIC RESPONSIBILITIES

A comprehensive list of OHS responsibilities is provided in the document *OHS management at Monash University: Structure, functions, roles and responsibilities* (<http://www.adm.monash.edu.au/ohse/documents>). A summary of responsibilities with respect to these procedures is provided below.

5.1 HEAD OF ACADEMIC/ADMINISTRATIVE UNIT

The head of academic/administrative unit/entity is responsible for:

- ensuring that OHS is notified before any purchase of ionising radiation sealed sources, sealed source apparatus or irradiating apparatus
- ensuring compliance with the licensing requirements of the state regulatory body for all ionising radiation sources;
- compliance with any special government imposed conditions under a site licence;
- ensuring that before purchasing any ionising radiation source, a plan has been developed for its future disposal.

5.2 RADIATION SAFETY OFFICER

The radiation safety officer is responsible for:

- ensuring that licensing of existing sealed sources of ionising radiation and irradiating apparatus is kept up to date and complies with statutory requirements;
- maintaining a register of all ionising radiation sources held within the unit/entity as outlined in the procedure below.

5.3 RADIATION PROTECTION OFFICER

The Radiation Protection Officer must:

- maintain all records as necessary to ensure compliance with statutory requirements.

- oversee all compliance of the University's ionising radiation sealed source and irradiating apparatus licencing requirements.
- maintain a database for all site wide licenses of ionising radiation sources and practices.

6. PROCEDURES FOR THE PURCHASE AND LICENSING OF IONISING RADIATION SOURCES

6.1 SEALED SOURCES AND SEALED SOURCE APPARATUS

The RSO must:

- notify the RPO before any purchases of sealed source or sealed source apparatus within the unit/entity.
- ensure that every sealed source and sealed source apparatus within the unit/entity is licenced and complies with statutory requirements.
- ensure that no sealed source or sealed source apparatus is disposed of, or ownership transferred to another unit/entity or outside organisation, without the prior approval of the RPO.
- ensure that any user of a sealed source or sealed source apparatus holds the appropriate use license as required by the state regulator.¹
- investigate with the RPO on issues of non-compliance.

The RPO must:

- ensure that, if necessary, an appropriate variation to the University's radiation management licence is obtained to allow possession of any proposed new source
- inform the regulator of any acquisition or disposal of sealed source or sealed source apparatus
- act as the first point of contact with the state regulatory body on issues of compliance with licenses and investigate with the RSO on issues of non-compliance.

6.2 IRRADIATING APPARATUS

The RSO must:

- notify the RPO before any purchase of irradiating apparatus within the unit.
- ensure that every irradiating apparatus within the unit/entity is licenced and complies with statutory requirements.
- Ensure that no irradiating apparatus is disposed of, or ownership transferred to another unit/entity or outside organisation, without the prior approval of the RPO.
- ensure that any user of an irradiating apparatus holds the appropriate use license as required by the state regulator.¹
- investigate with the RPO on issues of non-compliance.

¹ For a list of exemptions from the requirement to hold a use licence, refer to the following website for details:
<http://www.health.vic.gov.au/environment/licencing/index.htm>

The RPO must:

- ensure that, if necessary, an appropriate variation to the University's radiation management licence is obtained to allow possession of any proposed new source
- inform the regulator of any acquisition or disposal of irradiating apparatus
- act as the first point of contact with the state regulatory body on issues of compliance with licenses and investigate with the RSO on issues of non-compliance.

6.3 UNSEALED SOURCES

The RSO must:

- ensure that any unsealed source held within the unit/entity is present on the list of radionuclides covered by the University's radiation management license.
- coordinate with the RPO to ensure that any radionuclide to be used which is not listed on the University's radiation management licence is added to the licence before purchase
- investigate with the RPO on issues of non-compliance.

The RPO must:

- ensure that, if necessary, an appropriate variation to the University's radiation management licence is obtained to allow possession of any proposed new unsealed source
- act as the first point of contact with the state regulatory body on issues of compliance with licenses and investigate with the RSO on issues of non-compliance.

7. REGISTER

7.1 The RSO must maintain a register of ionising radiation for their respective unit/entity, which includes the following details.

7.1.1 Irradiating apparatus

- DHS Reference number
- Manufacturer
- Supplier
- Model
- Serial No
- Maximum energy – kVp & mA
- Location (room, bldg and campus)

7.1.2 Sealed sources and sealed source apparatus

- DHS Reference number
- Manufacturer
- Model
- Serial Number
- Isotope
- Activity
- Date of Activity
- Location (room, bldg and campus)

7.1.3 Unsealed sources

- Isotope
- Chemical form
- Maximum activity
- Location (room, bldg and campus) of storage and usage areas

7.2 The RPO will maintain this information electronically in a central database based on information provided by the unit/entity.

8. RECORDS

Record to be kept by	Records	To be kept for:
Academic/administrative unit/controlled entity	OH&S training records of training provided by unit/entity, including: <ul style="list-style-type: none">• Attendees;• Short description of training content	Indefinitely
	Laboratory/unit/entity records of purchases of ionising radiation sources	2 years after disposal of the ionising radiation source
OH&S	OH&S training records of training provided by OH&S, including: <ul style="list-style-type: none">• Attendees• Short description of training content	Indefinitely
	Course evaluation sheets	5 years
	Items controlled by OH&S in long term storage	Indefinitely
	Records of sealed sources, sealed source apparatus and irradiating apparatus	2 years after disposal of the ionising radiation source
	Licence documentation managed by OH&S	Indefinitely

9. REFERENCES

9.1 LEGISLATION

Radiation Act (2005)
Radiation Regulations (2007)

9.2 CODES OF PRACTICE AND RELATED DOCUMENTS

Code of Practice for the Safe Transport of Radioactive Material (2001)
Code of Practice for the Exposure of Humans to Ionizing Radiation for Research Purposes (2005)
Code of Practice for Safe Use of Fixed Radiation Gauges (2007)
NHMRC Code of Practice for protection against ionising radiation emitted from X-ray analysis equipment (1984)
NHMRC Code of Practice for the safe use of industrial radiography equipment (1989)
NHMRC Code of Practice for the safe use of ionising radiation in veterinary radiology (June 1982)
Recommendations for Limiting Exposure to Ionizing Radiation (Printed 1995 - Republished 2002) and National Standard for Limiting Occupational Exposure to Ionizing Radiation (Printed 1995 - Republished 2002)

9.3 MONASH UNIVERSITY OHS DOCUMENTS

<http://www.adm.monash.edu.au/ohse/documents/#policies>

Disposal of liquid radioactive waste
Disposal of low level solid radioactive waste
Ionising radiation dosimetry procedures
Manual for Users of Ionising Radiation
Occupational health and safety management at Monash University: Structure, functions, roles and responsibilities.
Protecting the unborn child from the effects of ionising radiation
Radiation Safety Manual
Training records
Using Ionising Radiation at Monash University

9.4 AUSTRALIAN STANDARDS

AS 2243.4:1998 Safety in Laboratories: Ionizing radiation