

SESLHD PROCEDURE COVER SHEET



Health
South Eastern Sydney
Local Health District

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EXECUTIVE SPONSOR	Director, Clinical Governance and Medical Services
AUTHOR	SESLHD Radiation Safety Officer
POSITION RESPONSIBLE FOR THE DOCUMENT	District Radiation Safety Officer SESLHD-RadiationSafetyOfficer@health.nsw.gov.au
FUNCTIONAL GROUP(S)	Radiation Safety
KEY TERMS	Regulatory requirements; dose; dose constraints; dose limits; Radiation Management Licence, licensing requirements; penalties
SUMMARY	Procedure to inform staff of radiation specific regulations.

COMPLIANCE WITH THIS DOCUMENT IS MANDATORY

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1. POLICY STATEMENT

South Eastern Sydney Local Health District (SESLHD) is committed, through a risk management approach, to protecting employees, contractors, students, volunteers, patients, members of the public and the environment from unnecessary exposure to radiation arising from systems and processes which use radiation apparatus and radioactive substances, whilst maintaining optimum diagnostic and therapeutic quality, therapeutic efficacy and patient care.

2. BACKGROUND

To identify the regulatory requirements that must be met for possessing and using radioactive substances and radiation generating apparatus or are otherwise exposed to ionising radiation resulting from such substances and apparatus.

3. RESPONSIBILITIES

All staff employed by SESLHD who are involved in the occupational use of ionising radiation are responsible for complying with the regulatory requirements stated in this procedure.

4. PROCEDURE

4.1 Legislation and Codes of Practice

In NSW all uses of radiation are governed by the *Protection from Harmful Radiation Act 1990* (NSW) and the *Protection from Harmful Radiation Regulation 2013* (NSW). These are administered by Environment Protection Authority (EPA). The Act allows for the adoption of documents forming part of the National Directory for Radiation Protection. The following ARPANSA Radiation Protection Series (RPS) documents have been gazetted in NSW for such adoption and are relevant to this Radiation Management Plan:

- RPS C-1 Code for Radiation Protection in Planned Exposure Situations (2020).
- RPS C-5 Code for Radiation Protection in Medical Exposure (2019).
- RPS 8 Code of Practice for Exposure of Humans to Ionizing Radiation for Research Purposes (2005).
- RPS 11 Code of Practice for the Security of Radioactive Sources (2019).
- NSW Radiation Guideline 7: Radiation shielding design assessment and verification requirements (2015).

In addition, the following three Safety Guides are available to assist in meeting the requirements of RPS 14.

- RPS 14.1 Safety Guide for Radiation Protection in Diagnostic and Interventional Radiology
- RPS 14.2 Safety Guide for Radiation Protection in Nuclear Medicine
- RPS 14.3 Safety Guide for Radiation Protection in Radiotherapy

4.2 Occupational Dose Limits

All persons, including hospital staff, who are exposed to ionising radiation as part of their employment are deemed to be occupationally exposed, and therefore are subject to legal radiation dose limits. The limits are set out in Schedule 5 of the *Protection from Harmful Radiation Regulation 2013* (NSW).

Note that the limits set out in Schedule 5 apply to occupational and public exposure only, and do not include exposures received as part of medical diagnosis or treatment.

4.3 Dose Constraints

A dose constraint is usually set at a value lower than the corresponding dose limit and is used for planning purposes to ensure that the dose limit is not exceeded. The NSW Environment Protection Authority (EPA) has specified the following design dose constraints when radiation shielding is being designed, assessed or verified in accordance with Radiation Guideline 7:

- 100 µSv per week for occupationally exposed persons from all sources of radiation; and
- 20 µSv per week for members of the general public.

4.4 Radiation Management Licence.

SESLHD, as a user of regulated material must hold a radiation management licence in respect of the regulated material and must comply with any conditions to which the licence is subject. The purpose of a management licence is to regulate, restrict or prohibit the possession, sale, storage, giving away, and disposal of regulated material to protect the community and the environment from exposure to radiation.

4.5 Requirements and conditions for the radiation apparatus or radioactive sources to be used

Throughout SESLHD there are various devices, apparatus and premises that must be included on the Radiation Regulated Material (RRM) Schedule of the Radiation Management Licence (RML). These include diagnostic radiation apparatus, therapeutic radiation apparatus, cyclotrons, sealed source devices and premises in which radioactive substances are kept or used. Sealed source devices are devices such as a blood irradiator or a brachytherapy afterloader which contain a sealed radioactive source.

The conditions applicable to the various devices, apparatus and premises included on the RML are included in the RML.

The SESLHD Radiation Safety Officer (RSO) must be made aware of any such items that are introduced into the District, and an application to vary the RML must be made with the EPA within the time-frame required by the management licence. If you are unsure of the requirements of the application process, you should consult with the local RSO.

Further, the SESLHD RSO must be made aware whenever a device, apparatus or premises is altered, moved (except mobile apparatus and devices), sold, given away or disposed of. No such item shall be disposed of without the written notification to the EPA, via an update to the RRM schedule of the management licence. In addition, whenever the

sealed source within a sealed source device is changed, the EPA and the RSO must be notified. The RML variation form is available on the EPA website or from the local RSO.

4.6 Licensing requirements for staff using radiation apparatus or radioactive substances

Any person carrying out work involving regulated material (i.e. radiation apparatus or radioactive substances) must be licensed individually to carry out such work, or have been issued with an exemption approval in writing and be working under the direction and supervision of a person holding such a licence.

The EPA issues radiation user licences to suitably qualified persons and has the power to withdraw or withhold licences when deemed necessary. Possession of a licence implies responsibility of the licensee to ensure that any conditions of the licence are met, and that persons working under his/her supervision carry out their work in a safe manner in accordance any with written conditions contained in their own radiation licences or exemption approvals.

Licence application forms are completed individually on the NSW EPA website. Licences are renewable on either an annual or 3-yearly basis, and a full copy of the renewed licence certificate should be passed to the local Radiation Safety Officer who maintains the hospital's records.

Medical staff (except radiologists) who use fluoroscopy apparatus are required to complete a radiation safety course before a licence will be granted. Contact the Local RSO if you need further details.

A radiation licence is not required for those staff who are present when radiation apparatus or radioactive substances are used but who do not control the radiation exposure in any way. This includes nurses in radiology or the operating theatres and speech pathologists assisting with barium swallow studies.

4.6.1 Exemption from requirement to hold a Radiation User Licence

There are special cases, for example medical registrars and university students, where a person uses regulated material but may be approved for exemption from the licensing requirement by the holder of a GE1 radiation licence condition. These persons must be issued with a written approval for the exemption and must be supervised by a licence holder whilst working with regulated material.

Medical staff to which such exemptions are applicable to are:

- a person who is a medical registrar at a hospital and is training in nuclear medicine, diagnostic radiology, radiation oncology, ophthalmology, dermatology, rheumatology or in a medical discipline that uses fluoroscopy,
- a person who is a student in medical radiation technology and is a trainee technologist in nuclear medicine, diagnostic radiology or radiation oncology,
- an undergraduate student in a university or other educational institution who is undertaking course work or research that involves the use of regulated material,
- a postgraduate student in a university or other educational institution who is undertaking research or higher studies that involve the use of regulated material,

- a person who is a registered nurse at a hospital or a medical officer at a hospital and is required to inject radiopharmaceuticals by that hospital (but only if a person who is the holder of a licence and who is able to inject the radiopharmaceuticals is not readily available at the hospital).

Medical specialists who are qualified to hold a Radiation User Licence with particular conditions shall not be exempted from the requirement to do so, although they may be exempted from the requirement to hold a Licence with different conditions (e.g. a Radiologist training in Nuclear Medicine).

Licence holders should confer with the Radiation Safety Officer when completing written approval notices to be issued to exempted persons. The notice must be made to an individual, must identify the GE licence condition holder and must include:

- the conditions of the approval;
- the supervision requirements; and
- the date the approval was made.

A copy of the exemption approval notice, signed by the GE1 condition holder, must be provided to the local RSO. Suitable templates for these notices can be obtained from the RSO.

4.7 Licence conditions

Each licence may have standard conditions imposed on it, and special conditions may be applied by the EPA for individual licenses. Separate licence conditions are required to permit the use of radiation apparatus and of radioactive substances.

Licensees must be aware of any conditions which apply to them. Some licences require that the holder be supervised, for example first year postgraduate radiographers, radiation therapists and nuclear medicine technologists.

You may obtain details of licence conditions, and exemptions and supervision requirements via web link, or contact the District RSO if you need further details.

4.8 Penalties for legislative contravention

Failure to comply with the requirements of the Protection from Harmful Radiation Act and its associated subordinate legislative documents, such as the Protection from Harmful Radiation Regulation and licence conditions, can result in penalties in the form of fines, imprisonment or both. These penalties are applicable to both individuals and to the District as a whole.

5. DOCUMENTATION

- Radiation Use Licence Application
- Radiation Management Licence Variation Form
- Radiation Licence Exemption Approval templates

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6. AUDIT

The following documents should be available for audit:

- SESLHD Radiation Management Licence
- Current Radiation User Licences
- Current exemption approval notices

7. REFERENCES

- [1] *Protection from Harmful Radiation Act 1990* (NSW)
- [2] *Protection from Harmful Radiation Regulation 2013* (NSW)
- [3] NSW EPA Radiation Guideline 7: Radiation shielding design assessment and verification requirements (2015)
- [4] ARPANSA RPS C-1 Code for Radiation Protection in Planned Exposure Situations (2020)
- [5] ARPANSA RPS C-5 Code for Radiation Protection in Medical Exposure (2019)
- [6] ARPANSA RPS 8 Exposure of Humans to Ionising Radiation for Research Purposes (2005)
- [7] ARPANSA RPS 11 Code of Practice for the Security of Radioactive Sources (2019)

8. VERSION AND APPROVAL HISTORY

Date	Version	Version and approval notes
August 2010	Draft	Richard Smart, Area Radiation Safety Officer
February 2011	0	Approved by Combined Clinical Council
October 2015	1	District Radiation Safety Officer
October 2016	1	Updates endorsed by Executive Sponsor
December 2019	2	Updates endorsed by Executive Sponsor
14 July 2023	2.1	Minor review: additional information in section 4.6 relating to licensing. Updates endorsed by Executive Sponsor
31 January 2025	2.2	Minor review: references to legislation updated following title change; updates to sections 4.6 and 4.6.1. Approved by Executive Sponsor.