

SESLHD POLICY COVER SHEET



Health
South Eastern Sydney
Local Health District

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AUTHOR	Brent Rogers, SESLHD Radiation Safety Officer Erin McKay, RSO St George Hospital
POSITION RESPONSIBLE FOR THE DOCUMENT	District Radiation Safety Officer SESLHD-RadiationSafetyOfficer@health.nsw.gov.au
FUNCTIONAL GROUP(S)	Radiation Safety
KEY TERMS	Radiation safety, ionising radiation, x-rays
SUMMARY	To limit the risk to health of staff and members of the public arising from exposure to radiation at any facility in the Local Health District.

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1. POLICY STATEMENT

The South Eastern Sydney Local Health District (SESLHD or the LHD) 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.

The LHD is also committed to ensuring that research proposals involving irradiation of human subjects fulfil the requirements of the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Code of Practice for the Exposure of Humans to Ionising Radiation for Research Purposes, RPS-8.

2. AIMS

- To comply with *Protection from Harmful Radiation Act 1990* (NSW) (as amended), the *Protection from Harmful Radiation Regulation 2013* (NSW) and all conditions of the SESLHD Radiation Management Licence;
- To limit the risk to health of staff, patients and other members of the public arising from exposure to radiation at any facility in the LHD;
- To limit the risk to the environment arising from the use of radiation or radioactive substances within the LHD;
- To establish a system of managerial responsibility and accountability for radiation safety;
- To have all employees recognise their responsibility to identify, report, and eliminate radiation hazards and to prevent injury to themselves and to others;
- To continually improve radiation safety standards and procedures by integrating radiation safety into organisational planning and activities.

This policy refers to **ionising radiation**. Non-ionising radiation policies and procedures are dealt with separately.

3. TARGET AUDIENCE

Services and Departments specifically covered by this policy include:

- All Services or Departments that use ionising radiation apparatus or radioactive substances for clinical, technical or research purposes;
- All Services or Departments responsible for patients that may undergo procedures elsewhere in the LHD involving radiation exposure;
- All Services or Departments whose staff may have cause to enter facilities where radiation is used; and
- All research laboratories using radiation apparatus or radioactive substances.

4. RESPONSIBILITIES

4.1 Chief Executive

The Chief Executive holds the District's authorisation to deal with radiation sources and therefore has management responsibility for those sources along with control over who may use them. Under the NSW radiation control act they are deemed to be the Responsible Person.

The Chief Executive must ensure that protection and safety are effectively integrated into the overall management system of the organisation. To this end, the Chief Executive must ensure that a Radiation Management Plan is developed, documented, resourced, implemented and regularly reviewed. This plan must adopt objectives for protection and safety in accordance with the requirements of the ARPANSA Planned Exposure Code (RPS C-1), Medical Exposure Code (RPS C-5) and Code for the Security of Radioactive Sources (RPS 11) and be adequate to ensure compliance with the requirements of these Codes.

Where a practice generates radioactive waste, the Chief Executive must ensure that the Radiation Management Plan includes a section on radioactive waste management and that that disposal of radioactive material is only carried out in accordance with an authorisation issued by the relevant regulatory authority.

The Chief Executive may formally delegate responsibility for radiation safety within the facilities of the District to a Radiation Safety Officer and Hospital Managers, however, ultimate responsibility for implementation of the radiation protection program and compliance with legislation and licence conditions remains with the Chief Executive.

4.2 District Radiation Safety Officer

The NSW Radiation Control Regulation provides for the appointment of a Radiation Safety Officer (RSO) to advise and assist an employer in fulfilling their responsibilities for radiation safety.

A District Radiation Safety Officer is appointed to advise and assist the LHD in fulfilling the legislative responsibilities for radiation safety, and to monitor compliance of facilities with the regulations, licence conditions and Radiation Management Plan.

The District Radiation Safety Officer must ensure that a record keeping system is implemented that includes the following:

- authorisations granted by the relevant regulatory authority;
- the radiation management plan;
- details of training courses and of participation by occupationally exposed persons;
- details of radiation monitoring and dose assessment;
- inventories of radiation sources and radioactive waste;

- details of incidents and accidents involving exposure to radiation and of corrective measures taken.

4.3 Hospital Managers

Hospital Managers are responsible for the implementation of the Radiation Management Plan within their facilities.

The Hospital Manager must, commensurate with the radiation hazard associated with the planned exposure situation, ensure that the principles of radiation protection are applied so that:

- no practice is undertaken unless it is justified;
- protection and safety are optimised;
- no person receives a dose in excess of the limits imposed by the NSW Environmental Protection Authority (EPA) as a consequence of the activities of the Hospital.

The Hospital Manager must ensure that all necessary resources for implementing the Radiation Management Plan are provided, including:

- personal protective equipment;
- safety devices;
- radiation monitoring equipment.

Where a Hospital manages radiation sources, the Hospital Manager must ensure that each source (or aggregation of sources) is assigned a security category using the methodology of RPS 11 and that a Source Security Plan is developed for each category 1, 2 or 3 source that demonstrates how the requirements of RPS 11 will be met in relation to the source.

4.4 Radiation Safety Committees

Each locality within SESLHD shall establish a Radiation Safety Committee. The composition and role of this committee should comply with the requirements specified in the NSW EPA publication Radiation Series No. 5 *Recommendations for Radiation Safety Officers and Radiation Safety Committees*.

The Radiation Safety Committee will:

- Act as an administrative and consultative body that reviews the radiation safety of all uses of ionising radiation and radioactive substances within the locality;
- Recommend, develop, implement and monitor radiation safety policies and procedures within the locality;
- Monitor, evaluate and improve radiation safety within the locality.

Subcommittees to the Radiation Safety Committee may be established to assist with the exercise of its functions, however these subcommittees should remain advisory.

4.5 Hospital Radiation Safety Officers

A Hospital Radiation Safety Officer (HRSO) is appointed to advise and assist a hospital (or group of hospitals) in fulfilling the legislative responsibilities for radiation safety and to monitor compliance of Departments within the Hospital with the regulations, licence conditions and Radiation Management Plan.

The District RSO may simultaneously be one of the Hospital RSOs.

Both District and Hospital RSOs have the authority to:

- Stop any unsafe operations or proposed actions involving radiation that come to his or her attention; and
- Implement any necessary urgent actions following the occurrence of a radiation accident.

4.6 Department Managers

Department Managers have delegated authority for the management of radiation safety within their department.

For departments in which staff use radiation apparatus or handle radioactive substances, the specific responsibilities include:

- Ensuring that all employees and contractors working in their department comply with the LHD radiation safety policy and procedures and any relevant local business rules
- Ensuring that all employees in their department receive appropriate induction and continuing radiation safety training, and that records of this training are maintained
- Ensuring that all staff who may be exposed to radiation as a consequence of their work are issued with appropriate personal radiation monitoring devices
- Ensuring that all staff who may be exposed to radiation are provided with and correctly use the appropriate personal protective equipment
- Ensuring that no person under 16 years is, or could be, subject to occupational exposure and that persons under 18 years are only subject to occupational exposure when being trained under supervision
- Ensuring that, when an occupationally exposed female has declared a pregnancy, additional controls are put in place to protect the embryo/foetus at a level appropriate for a member of the general public
- Ensuring that all radiation incidents are investigated to determine preventative and/or corrective actions
- Ensuring that only those staff or contractors who hold an appropriate, current radiation user licence undertake work involving ionising radiation or radioactive substances, unless that person is explicitly exempted from the licensing requirement by the radiation control legislation
- Ensuring that any person who is exempt from licensing, or whose licence conditions require the person to be supervised, is appropriately supervised as required by the radiation control legislation

- Ensuring that all details of equipment, radioactive sources and/or premises are current and listed on the Radiation Management Licence (RML) and that the Department complies with all applicable conditions of the RML and that all necessary records are maintained.

The Department Manager must ensure that a qualified expert, who could be an employee of the Responsible Person, is identified and is consulted as necessary on the proper observance of the regulations and codes of practice.

4.7 Radiation Safety Supervisors

A Radiation Safety Supervisor (RSS) is nominated to assist a Department Manager in providing a Radiation Safety service for a particular radiation-using Department. The RSS should be a Medical Physicist with accreditation in the speciality of the Department:

- Radiology: Diagnostic Imaging Medical Physicist (Radiology speciality);
- Radiotherapy: Radiation Oncology Medical Physicist;
- Nuclear Medicine: Diagnostic Imaging Medical Physicist (Nuclear Medicine speciality).

Within their host Department, the RSS will assist the Department Manager and Hospital RSO with:

- Ensuring compliance with regulation and policy
- Performing radiation dosimetry and risk assessments
- Accident investigation and follow-up
- Management of radiation monitoring devices
- Development of a Radiation Safety culture.

4.8 Radiological Medical Practitioners

A Radiological Medical Practitioner has the overall responsibility for the conduct of a radiological procedure. They must be appropriately authorised by the relevant regulatory authority and comply with the relevant provisions of the Radiation Management Plan, except where good professional practice would dictate otherwise for a particular circumstance.

In particular, they must:

- not undertake or authorise a radiological procedure without a written request containing appropriate patient identifying information, stating the clinical question or therapeutic treatment aim, and containing sufficient contact details for the referrer
- ensure that the radiation exposures they are responsible for are justified, taking into account the specific objectives of the procedure and the total potential benefits and detriments to the individual patient
- where a pregnant patient is to be exposed, include in the justification an assessment of the risks to the embryo or foetus from the radiation exposure and the risks to the patient if the procedure is not performed

- make information on the benefits and risks associated with the procedure, and any available alternative procedures delivering a lower radiation dose, available to the patient or the patient’s legal authorised representative
- following an interventional radiological procedure where there is a possibility of radiation induced deterministic effects, liaise with the referrer to ensure follow-up of the patient.

4.9 Radiological Medical Operators

A Radiological Medical Operator initiates a medical radiation exposure. They must be appropriately authorised by the relevant regulatory authority to administer ionising radiation to an individual for diagnostic or interventional radiology, nuclear medicine or radiotherapy and must comply with the relevant provisions of the Radiation Management Plan.

The Operator may not carry out procedures involving ionising radiation unless they are:

- appropriately authorised by a radiological medical practitioner; or
- are acting accordance with written protocols endorsed or established by the practitioner, or by an acknowledged professional college or authority.

When performing a medical exposure, the Operator must:

- take reasonable steps to ensure that the patient is correctly identified and that the prescribed procedure is to be performed
- take reasonable steps to establish the pregnancy status of a patient of child-bearing capacity where the radiation dose to an embryo or foetus might exceed 1 mSv
- optimise exposure of the patient within the scope of the parameters under their control
- ensure that the radiation exposure of persons other than the patient is minimised
- report any unintended or accidental exposure to the local Radiation Safety Supervisor or RSO.

4.10 Radiation Workers

Employees and others working in areas where radiation and/or radioactive substances are utilised will:

- Comply with all conditions of any radiation licence issued by the NSW EPA
- Comply with the requirements of the LHD Radiation Management Plan and any local radiation safety procedures
- Ensure that their radiation licence is current, and that a copy has been provided to their Department Manager and their Hospital RSO
- Adhere to the ALARA principle to keep radiation doses As Low As Reasonably Achievable
- Wear any personal radiation monitor that is issued to them and correctly use

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- any radiation protective equipment provided by the facility
- Promptly report any incident involving radiation, or potential radiation hazard, to their Department Manager
- Attend any radiation safety training as required by the organisation.

4.11 Contractors

Contractors will comply with all LHD radiation safety procedures and facility business rules and safe work practices. They will attend site-specific training in radiation safety if required.

Company service engineers and other contractors working with radiation equipment must hold a current radiation user licence and must provide a copy of this on request to the Department Manager or Hospital Radiation Safety Officer.

5. DEFINITIONS

ARPANSA: Australian Radiation Protection and Nuclear Safety Agency

EPA: New South Wales Environmental Protection Authority

Ionising radiation: radiation capable of producing ions in its passage through matter

Radiation apparatus: equipment which, when operated, emits ionising radiation

Radioactive substance: as defined in the *Protection from Harmful Radiation Regulation 2013*

6. DOCUMENTATION

- Radiation Safety Committee terms of reference.
- SESLHD Radiation Safety Procedures and Local Business Rules.

Contact Details for the District and Local RSOs		
	Normal Hours	After Hours
SES Local Health District	9382 8067	POWH Switchboard
Northern Sector Hospitals	9382 8067	POWH Switchboard
Southern Sector Hospitals	9113 3130	SGH Switchboard
Common RSO email:	SESLHD-RadiationSafetyOfficer@health.nsw.gov.au	

7. REFERENCES

- [1] *Protection from Harmful Radiation Act 1990* (NSW)
- [2] *Protection from Harmful Radiation Regulation 2013* (NSW)
- [3] NSW EPA Radiation Series publications and Guidelines
- [4] ARPANSA Code for of Practice for Radiation Protection in Planned Exposure Situations (2020) - Radiation Protection Series C-1
- [5] ARPANSA Code of Practice for Radiation Protection in Medical Exposure (2019) – Radiation Protection Series C-5

- [6] ARPANSA Code of Practice for the Security of Radiation Sources (2019) – Radiation Protection Series publication Number 11
- [7] National Directory for Radiation Protection
- [8] *Work Health and Safety Act 2011* (Cth)
- [9] *Work Health and Safety Regulation 2017* (NSW)
- [10] NSW Ministry of Health Policy Directive PD2022_023 - Enterprise-wide Risk Management
- [11] SESLHDPR/333 – Work Health and Safety - Contractor Management
- [12] SESLHDPR/532 - Radiation Safety - Quality Assurance Procedures for Radiation Therapy
- [13] SESLHDPR/533 - Radiation Safety - Death procedures for bodies containing radioactive material
- [14] SESLHDPR/534 - Radiation Safety - Transport of radioactive substances
- [15] SESLHDPR/535 - Radiation Safety - Optimising exposures in radiotherapy
- [16] SESLHDPR/536 - Radiation Safety - Shielding and Facility Design
- [17] SESLHDPR/537 - Radiation Safety Training
- [18] SESLHDPR/550 - Radiation Safety - Management of Radiation Apparatus
- [19] SESLHDPR/551 - Radiation Safety - Optimising Exposures in Diagnostic and Interventional Radiology
- [20] SESLHDPR/552 - Radiation Safety - Optimisation of Radiation Exposures in nuclear medicine
- [21] SESLHDPR/553 - Radiation Safety - Calibration and Quality Assurance Procedures for Radiological and Radiation Safety Instruments
- [22] SESLHDPR/554 - Radiation Safety - Radiation Exposure and Risk
- [23] SESLHDPR/559 - Radiation Safety - Radiation Exposure of Volunteers for Research Purposes
- [24] SESLHDPR/558 - Radiation Safety - Handling, Investigation and Reporting of Radiation Incidents
- [25] SESLHDPR/557 - Radiation Safety - Protection of Staff and the General Public in Nuclear Medicine
- [26] SESLHDPR/556 - Radiation Safety - Protection of Staff in Operating Theatres
- [27] SESLHDPR/555 - Radiation Safety - Protection of staff and the public during Radiation Oncology procedures
- [28] SESLHDPR/538 - Radiation Safety - Protection of Staff and the General Public in Departments Performing Diagnostic or Interventional Radiology
- [29] SESLHDPR/539 - Radiation Safety in Ward Areas
- [30] SESLHDPR/540 - Radiation Safety - Record Keeping
- [31] SESLHDPR/541 - Radiation Safety - Minimising Radiation Exposure in Laboratories
- [32] SESLHDPR/542 - Radiation Safety - Regulatory Requirements
- [33] SESLHDPR/543 - Radiation safety - personal monitoring

- [34] SESLHDPR/544 - Radiation Safety - Storage and disposal of radioactive materials
- [35] SESLHDPR/545 - Radiation safety - Response to external emergencies involving radioactivity or exposure to ionising radiation Policy

8. VERSION & APPROVAL HISTORY

Date	Version	Version and approval notes
December 2004	Draft	EQuIP Corporate Facilitator in consultation with the Area Radiation Safety Committee. Approved for release by the Area Policy and Procedure Committee 9 th December 2004
November 2005	Draft	Richard Smart, Area Radiation Safety Officer in conjunction with the Area Radiation Safety Committee
January 2006	1	Richard Smart, Area Radiation Safety Officer in conjunction with the Area Radiation Safety Committee, approved for release by the Executive Management Committee 31 January 2006
May 2010	Draft	Richard Smart, Area Radiation Safety Officer in conjunction with the Area Radiation Safety Committee
February 2011	0	Approved by Combined Clinical Council
October 2011	1	Revised by Acting Policy Officer Michelle Bonner to include SESLHNPDP /135 procedure
December 2015	2	Periodic Review
November 2016	2	Review and updates approved by Executive Sponsor
December 2019	3	Review and updates approved by Executive Sponsor
26 April 2024	4.0	Major Review: replaced ARPANSA RPS8 with ARPANSA C1 and C5 as reference document; formatting changes; redefined titles and responsibilities of Section 4 to align with C1 and C5 above. Approved by SESLHD Clinical and Quality Council.