Medical Imaging - Radiation Safety Management Plan

1. Guiding Principles

Effective: 19 October 2021

This document describes the management of radiation safety at WA Country Health Service (WACHS) sites. It lists the regulatory publications, guidelines and general policies that are applicable to radiation safety and is intended to be read by any person responsible for any aspect of radiation safety across WACHS.

The scope of this document is to provide policy and procedural information, and traceability to both legislation and other documents that define the framework for radiation safety across WACHS. In particular, it meets the requirements of the ARPANSA Guide for Radiation Protection in Medical Exposure (RPS C-5) and the ARPANSA Code for Radiation Protection in Planned Exposure Situations (RPS C-1).

This document is to be reviewed at least every five years by the Area Chief Medical Imaging Technologist.

2. Procedure

2.1 Justification, Optimisation and Diagnostic Reference Levels

2.1.1 Justification

Procedures involving the exposure of individuals to radiation in medicine should only be undertaken if they are accepted as doing more good than harm. All individual medical exposures must be justified in advance, taking into account the specific objectives of the exposure and the characteristics of the medical condition of the individual involved.

Medical imaging examinations within WACHS are only undertaken upon compliance with the Referral for Service process as per the WACHS Imaging Clinical Practice Standard.

2.1.2 Optimisation

Medical radiation exposures should be optimised to provide the required diagnostic or therapy exposure, for the lowest risk from radiation. The radiation doses that arise from medical radiation procedures, including those received by occupationally exposed persons and members of the public, must be kept as low as reasonably achievable (ALARA).

- Only persons essential to the conduct of the examination are present in the room during exposure
- unless behind an approved protective screen, all persons present stand the maximum practicable distance from both the patient and the x-ray tube during exposure
- radiation exposure times are kept as short as reasonably practical
- the radiation beam is collimated to the area of clinical interest in all cases

- all protective doors into the x-ray room are closed during exposure
- non-radiographic staff are instructed on aspects of radiation safety regarding entering X-ray rooms, observation of warning signs etc.
- medical imaging staff are directed not to hold children or uncooperative adults for X-ray examinations. Parents, carers or other staff must be used for this purpose if absolutely necessary.

2.1.3 Diagnostic Reference Levels

Radiation doses administered to a patient for diagnostic purposes must be periodically compared with National Diagnostic Reference Levels (DRLs) for procedures for which DRLs have been established in Australia (e.g. CT examinations). DRLs should be further evaluated with the view to establishing practice reference levels (PRLs), as part of departmental continuous quality improvement and accreditation activities.

If DRLs are consistently exceeded then the procedure/protocol should be reviewed to determine whether radiation protection has been optimised.

Each WACHS site Senior/Chief Medical Imaging Technologist is responsible for establishing a program to ensure DRLs/PRLs are monitored and appropriately documented.

2.2 Radiation Procedures

2.2.1 Patient and Procedure Identification

Immediately before conducting a radiation procedure on a patient, the medical imaging technologist/x-ray operator must take reasonable steps to ensure that the patient is correctly identified and ensure that the prescribed procedure is to be performed on the patient, in accordance with ARPANSA Guide for Radiation Protection in Medical Exposure (RPS C-5). Each WACHS Imaging site must ensure the correct identification of all patients undergoing a diagnostic imaging service according to WACHS Patient Identification Policy and adherence to appropriate local identification procedures.

2.2.2 Patient Consent

All sites are to adhere to the WA Health Consent to Treatment Policy

Except in cases of emergency, patient consent should be obtained before a diagnostic radiation procedure, in accordance with ARPANSA Safety Guide for Radiation Protection in Diagnostic and Interventional Radiology (RPS 14.1) and for pregnant patients in accordance with ARPANSA Guide for Radiation Protection in Medical Exposure (RPS C-5). Consent requirements must reflect the level of risk associated with each radiation procedure.

2.2.3 Pregnant or Potentially Pregnant Patients

Where a radiation procedure is likely to result in a radiation dose of more than 1mSv to an embryo or foetus, reasonable steps must be taken immediately before the commencement of the procedure to establish and document the

pregnancy status of female patients aged 16 to 50 as per the WACHS Radiology - Imaging Pregnant Patients Procedure.

Written signs in several languages, as well as pictorially, are displayed throughout the department alerting female clients of reproductive age to advise the Medical Imaging Technologist (MIIT) / X-Ray Operator (XRO) if they believe they may be pregnant.

2.3 Training and Licensing Requirements

2.3.1 Training

The WA radiation safety legislation and occupational safety and health legislation require adequate training and instruction for workers. Regulation 19 of the *Radiation Safety (General) Regulations 1983* (WA) requires all individuals who may be occupationally exposed to radiation must have appropriate training or instruction that relates to:

- the type of work being undertaken
- the radiation source and related ancillary equipment that the individual may be required to use
- any potential radiation hazards associated with the practice, and
- the means of protection and minimisation of unwanted radiation exposure.

2.3.2 Licensing

All persons who use, operate or otherwise deal with radioactive substances, irradiating apparatus or prescribed electronic products must hold a relevant current licence issued under the *Radiation Safety Act 1975* (WA), work under the direction and supervision of an appropriate licence holder (as permitted), or be exempted from licensing.

The Radiation Safety Officer of each department or area where the procedures are undertaken should be responsible for checking and maintaining licence records.

2.3.2.1 Fluoroscopy licences for non-radiologist medical specialists and non-specialists

Specialist medical practitioners that use fluoroscopy during surgery or for purposes relating to their specialty must hold a licence (of either 1 or 3 years duration) or a temporary licence (of up to 3 months duration) under the *Radiation Safety Act 1975* (WA). To be eligible for a licence, you will need to have attended a recognised Radiation Safety Course and be registered as a medical practitioner with the Australian Health Practitioner Regulation Agency (AHPRA) in one of the following categories:

- Specialist
- Limited – Area of need
- Limited – Postgraduate Training or Supervised Practice

The Radiological Council recognises a number of training courses as meeting the prerequisite for specific categories of licence in Western Australia; a non-exhaustive list of which is reproduced here.

Persons other than Radiologists registered as medical specialists with AHPRA and using fluoroscopy must hold their own fluoroscopy licence and are not permitted to work under the supervision of another licensee. Persons training for specialist qualifications may work under the supervision of a licence holder. A medical imaging technologist (MIT) must also be present at all times during the use of fixed or mobile fluoroscopic equipment.

Non-specialist medical practitioners in remote and rural areas may be eligible for a licence to use fluoroscopic equipment for the reduction of fractures only, in the presence of an MIT.

Specialist medical practitioners who have yet to attend a recognised Radiation Safety Course can make a one-time application for a temporary licence for a period of up to 3 months.

2.4 Personal Radiation Monitoring

In accordance with the *Radiation Safety (General) Regulations 1983* (WA) Section 25, each person occupationally exposed to radiation on the premises is individually issued with and wears as instructed, an approved personal monitoring device, to record his or her cumulative radiation dose. Each device is used only by the person to whom it was issued and must not be tampered with, unnecessarily exposed to radiation, heat or chemical agents. Personal monitoring devices are returned for assessment at three monthly intervals. The Radiation Safety Office (RSO) for each site must maintain the records of staff radiation doses.

Results from the personal radiation monitoring devices are reviewed each monitoring period, and any anomalies are notated and reported to the designated safety/quality review committee at each site.

The reports are filed at each site and are also available online from the service provider.

The Senior MIT arranges personal radiation monitoring devices for all hospital staff that are occupationally exposed.

The Area Chief MIT arranges and provides the personal radiation monitoring devices for the relief staff employed by the WACHS Central Office for state-wide relief.

2.4.1 Dose limits

The dose limits for radiation workers and members of the public are specified in Schedule 1 of the *Radiation Safety (General) Regulations 1983* (WA) and are summarised in Table 1 below.

The Regulations apply additional restrictions to a radiation worker that has notified her employer that she is pregnant. The dose limit is an equivalent dose to the surface of her abdomen for the remainder of the pregnancy of 2 mSv. The

ARPANSA Code for Radiation Protection in Planned Exposure Situations (RPS C-1) also applies a dose limit of 1 mSv to the embryo or foetus.

The dose limit in a single planned special exposure referred to in Regulation 24(2) is an effective dose of 100 mSv.

Type of limit	Occupationally Exposed Person	Member of Public
Effective dose	20 mSv per year, averaged over a period of five consecutive years[1, 2]	1 mSv per year, averaged over any period of 5 years[4]
Annual equivalent dose to lens of the eye	20 mSv per year, averaged over a period of five consecutive years	15 mSv
Annual equivalent dose to skin[3]	500 mSv per year	50 mSv
Annual equivalent dose to hands and feet	500 mSv per year	-

Table 1: Dose limits for ionising radiation

[1] With the further provisions that the effective dose must not exceed 50 mSv in any single year. In any period of less than 12 months but not less than 1 month, an effective dose of the amount which is the product of 50 mSv and the ratio of that period in weeks to 52 weeks and in any period of less than 1 month, an effective dose of $^{1}/_{12}^{th}$ of 50 mSv.

[2] The dose limit for an occupationally exposed female who has notified her employer that she is pregnant is an equivalent dose to the surface of her abdomen for the remainder of the pregnancy of 2 mSv.

[3] The equivalent dose limit for the skin applies to the dose averaged over 1 cm^2 of the most highly irradiated area of the skin. The dose to the skin also contributes to the effective dose, this contribution being the average dose to the entire skin multiplied by the tissue weighting factor for the skin.

[4] With the further provisions that the effective dose must not exceed 5 mSv in any single year and, in respect of an area where such persons might continuously occupy, an effective dose of 20 µSv in any one (1) hour and an effective dose of 250 µSv in any period of seven (7) days.

2.4.2 Reportable Doses

Regulation 15 of the *Radiation Safety (General) Regulations 1983* (WA) requires certain actions to be taken when a person receives a reportable dose (Table 2).

Whole Body Effective Dose (mSv) for 3-month monitoring period	Required Action
1.5 - 5	Immediately investigate the circumstances concerning the receipt or possible receipt of the dose and place a report on radiation worker's file
5 - 25	Immediately investigate the circumstances concerning the receipt or possible receipt of the dose and provide a written report of the matter to the Radiological Council.
>25	Immediately report all facts concerning the receipt or possible receipt of the dose to the Radiological Council.

Table 2: Actions required by the *Radiation Safety (General) Regulations 1983* (WA) for radiation doses received by individuals

2.5 Facilities Approvals

2.5.1 Warning Signs

Warning signs bearing the radiation warning symbol are placed adjacent to and at eye level of all x-ray room doors. Illuminating signs may also be present which light up when in preparation of and for the duration of the exposure. The lights are checked periodically for functionality. X-Ray Operator (XRO) sites may not have a light that is illuminated at the preparation of and duration of an exposure of radiation, but may have a light situated at the entry of the room that can be switched on or off to indicate the possible use of radiation.

2.5.2 Structural Shielding

All shielding walls, windows and screens are to be labelled with their lead equivalence at a specified energy. Any changes to the requirements of the structural protection assessment must not be undertaken without prior approval from the Radiological Council.

2.6 Personal Protective Equipment

Personal Protective Equipment (PPE) must conform to the requirements outlined in the Radiation Safety (General) Regulations 1983 (WA) and any applicable Australian / New Zealand Standards. PPE is required to be used in a range of circumstances involving the use of radiation. Protective aprons and thyroid shields are supplied in the Medical Imaging Department.

Protective aprons of at least 0.25mm lead equivalence must be worn:

- by any person (other than the client) while in an x-ray room while x-rays are being used, unless they are behind an approved lead protective screen
- by any person (other than the client) while in a room while exposures are made on a mobile x-ray machine

- by any person (other than the client) while in theatre while x-ray exposures are made.

The ARPANSA Safety Guide for Radiation Protection in Diagnostic and Interventional Radiology (RPS 14.1) states "General radiographic examinations of the extremities, head and skull, mammography and CT examinations of the neck and head can be undertaken on pregnant or possibly pregnant women without concern. The operator should provide a leaded drape to cover the lower abdomen in such circumstances although it is as much for psychological reasons as for any physical benefit."

Lead protective gloves are worn by anyone who is holding a client or item in, or close to, the primary x-ray beam. Lead protective thyroid shields are available for staff in close proximity to the x-ray beam during screening procedures.

All lead protective devices are stored without creases or folds when not in use.

Lead protective devices are visually checked on a yearly basis as a minimum, and results recorded in the QA file. For those sites where there is a screening unit, the lead protective devices used on that site are to be screened using fluoroscopy on an annual basis and results (cracks, damage to lead lining) recorded. For sites with no fluoroscopy unit on site, lead gowns are to be x-rayed annually using a fixed general or mobile x-ray unit. ARPANSA recommends replacement of a lead protective device if a defect is greater than 15mm^2 in areas close to critical organs or if a defect is greater than 670mm^2 for areas at the back or along the seams.

2.7 Quality Assurance

2.7.1 Compliance Testing

All x-ray equipment is serviced regularly and checked for compliance by licensed compliance testers and qualified experts as per the *Radiation Safety Act 1975* (WA). A copy of licensed compliance testers is available from Radiation Health.

A compliance test is a suite of tests that is carried out on an x-ray unit to see if it is performing within specification, in order to minimise radiation doses to patient and operator and ensure image quality is maximised. Validated current compliance certificates are displayed in the work area of the relevant equipment at each site, and a compliance sticker is applied to the relevant piece of equipment.

It is an offence to use irradiating apparatus for the purpose of human diagnostic imaging unless it has one of the following:

- A current **compliance certificate**
- a **conditional compliance certificate**. Conditional compliance may be granted to non-complying equipment provided the equipment was registered before the relevant regulations standards came into effect. However, the Radiological Council requires evidence that the item of non-compliance

cannot be reasonably rectified and does not unacceptably increase radiation dose

- a certificate **of exemption from compliance**; x-ray equipment that cannot meet either full or conditional compliance but which the registrant believes serves an ongoing clinical need, may make application to the Radiological Council for an exemption from compliance, or
- a **notice of non-compliance** - depending on the circumstances, the registrant may be directed to immediately cease use of the equipment until the identified item(s) of non-compliance are corrected. However, if the need for correction is non-urgent, the registrant may be directed to ensure that the identified item(s) of non-compliance are to be corrected within 3 months of the compliance test or within three (3) months after expiry of the current compliance certificate.

The prescribed intervals for compliance testing are as follows:

C-arm or U-arm fluoroscopy (fixed or mobile) .....12 months

Mammographic.....12 months

Cone Beam CT.....12 months

Other fluoroscopy .....24 months

Radiographic .....24 months

CT .....24 months

Dental (intraoral and OPG) .....36 months

2.8 Radiation Incidents

All radiation incidents including accidental/unplanned exposures, exposure of a pregnant patient where pregnancy status was unknown at the time of exposure or other breach of state or local radiation safety rules are to be immediately reported to the radiation safety officer.

Normal hospital incident processes are to also be followed for incidents involving radiation. If staff are involved, normal OSH procedures are to be followed; if patients are involved, the incident is to be recorded on the Datix Clinical Incident Management System (CIMS).

Reportable incidents are defined by legislation and must be reported to the Radiological Council within 7 days. What constitutes a reportable incident is specified under regulation 19A of the *Radiation Safety (General) Regulations 1983* (WA) and the Medical Incident Reporting conditions attached to each site's registration (Appendix 2).

Reportable incidents include but are not limited to:-

- There is an unintended emission of radiation as a result of damage to, or the malfunction of x-ray equipment, a prescribed electronic product, a device or thing containing a radioactive substance or a device controlling the application of radiation from a radioactive substance

- any procedure other than as prescribed, including any diagnostic procedure delivered:
    - to the wrong patient
    - to the wrong site on the patient
    - using the wrong modality
- any diagnostic procedure resulting in an observable acute radiation effect
- inadvertent or unjustified radiation exposure of a pregnant patient that has or is likely to result in a radiation dose to the embryo or foetus or more than 1mSv.

The actions to be taken in the event of an incident as well as the method and content of the notification to Council can be found in Regulation 19A (2) and 19A (3) of the *Radiation Safety (General) Regulations 1983* (WA).

As soon as practicable after becoming aware of the occurrence of the incident, the registrant:

- ascertains the cause of the exposure
- if the cause of the exposure was damage to, or the malfunction of, any irradiating apparatus, prescribed electronic product or radioactive device:
    - ensures the apparatus, product, device or thing is repaired or removed from the premises and taken to a safe place; and
    - ensures that until it is repaired or removed, it is not used or if the damage or malfunction can be isolated without adversely affecting the safety or performance of the apparatus, product, device or thing, that it is so isolated.
- informs any persons who may have been exposed to the abnormal or unplanned radiation exposure of the occurrence of the exposure; and
- notifies the Radiological Council in writing of the incident **within seven (7) days**, including:
    - the nature, type and cause of the abnormal or unplanned radiation exposure
    - the location and time of, and the people involved in its occurrence
    - the area over which any radioactive substance may have been dispersed
    - the details of any personal injury or exposure sustained by any person, including an assessment of the radiation dose received and the actions taken to rectify the situation and to prevent a recurrence.

The Radiological Council provide an Incident Reporting Form which must be used to report incidents.

3. Definitions

Nil

4. Roles and Responsibilities

All Staff are required to work within policies and guidelines to make sure that WACHS is a safe, equitable and positive place to be.

4.1 Radiological Council and Radiation Health

The Radiological Council is an independent statutory authority appointed under the *Radiation Safety Act 1975* (WA) in Western Australia to assist the Minister for Health to protect public health and to maintain safe practices in the use of radiation.

The *Radiation Safety Act 1975* (WA) regulates the keeping and use of radioactive substances, irradiating apparatus (e.g. x-ray equipment) and certain electronic products (e.g. lasers). The Act applies to both ionising and non-ionising radiation. Registration of premises and radiation sources and licensing of individuals are the principal means by which the use of radiation is regulated.

Daily administration of the Act is undertaken by personnel of Radiation Health acting through the Secretary of the Radiological Council. Radiation Health has separate responsibilities to WA Health and is under the direction of the Managing Health Physicist.

4.2 Registrant

All WACHS sites which have irradiating apparatus, either in storage or in use, must be registered with the Radiological Council. The registrant is the person in whose name the certificate of registration has been issued.

The registrants for each site are listed in Appendix 1.

The registrant may delegate tasks to other persons; the roles and responsibilities of any person undertaking delegated duties must be clearly stated in writing. The duties required of the registrant are described in the fact sheet Responsibilities of the Registrant issued by the Radiological Council.

4.3 Radiation Safety Officer

Regulation 18 of the *Radiation Safety (General) Regulations 1983* (WA) requires the registrant to appoint a Radiation Safety Officer (RSO) to perform, on behalf of the registrant, the duties imposed on the registrant by regulations 19(2), 19A(2), 25 and 26 and the duties imposed on the Radiation Safety Officer by regulation 19(3). For further information, see the Responsibilities of the Radiation Safety Officer Fact Sheet. This appointment requires the prior approval of the Radiological Council. (A registrant may also be the RSO). The appointment of a RSO or a Radiation Safety Committee (RSC) does not lessen the registrant's liability for any failure by the RSO or RSC to perform their duties.

The preferred RSO for each hospital is the site Senior/Chief Medical Imaging Technologist (MIT). In the X-Ray Operator (XRO) hospitals, the preferred RSO is the Approved Radiographer for that site. In some circumstances, other professions, including nurses (if they are a registered X-ray Operator) may fulfil the role of RSO. All nominations must be approved by the Council.

The Radiation Safety Officer:

- prepares working rules for the safe use and operation of radioactive substances, x-ray equipment and prescribed electronic products if required by the Council, the regulations, or by a condition, restriction or limitation imposed on the registration
- ensures that no radioactive substances are used or stored and no x-ray equipment or prescribed electronic products are installed unless the Council has approved plans for the premises and the premises conform to those plans
- ensures that all shielding, safety devices, protective equipment, radiation monitoring and radiation surveying devices required by the regulations or by a condition, restriction or limitation are installed or available, regularly tested and serviced, and repaired and replaced when necessary
- makes recommendations to the registrant on the need or otherwise for the medical examination of radiation workers
- maintains all records required by the Act or the Regulations
- ensures that any conditions, restrictions or limitations imposed on the registration (and of which the RSO has been informed) are complied with
- notifies the registrant of any suspected or known contravention of the Regulations or of any condition, restriction or limitation imposed on the registration as soon as practicable after becoming aware of it.
- evaluates the radiation dose received by any individual unnecessarily exposed to radiation in accordance with any directions given by the Council
- notifies the registrant of an exposure to any person (other than the patient for medical purposes) which exceeds the limits prescribed in regulation 15 of the *Radiation Safety (General) Regulations 1983* (WA).
- notifies the registrant of any abnormal or unplanned radiation exposures.

4.4 Responsible Medical Practitioner

The medical practitioner (i.e. Consultant Radiologist) is responsible for the conduct of procedures involving the exposure of patients to radiation and must ensure that such exposures are justified and optimised in accordance with this radiation management plan and other relevant documents.

4.5 Operator / Person Administering Radiation

The person administering radiation to a patient (e.g. a medical imaging technologist, X-ray operator or responsible medical practitioner) must do so in accordance with the requirements specified in this radiation management plan and the conditions, restrictions and limitations attached to the organisation's registrations and individual's licence, as well as other relevant documents.

5. Compliance

Compliance with this procedure is a mandatory requirement under the *Radiation Safety Act 1975* and the *Radiation Safety (General) Regulations 1983.*

Failure to comply with this procedure may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the Integrity Policy Framework issued pursuant to section 26 of the *Health Services Act 2016* (WA) and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers, researchers, contractors for service (including all visiting health professionals and agency staff) and persons delivering training or education within WACHS.

WACHS staff are reminded that compliance with all policies is mandatory.

6. Records Management

All WACHS corporate records must be stored in the approved Electronic Documents and Records Management System in accordance with the Records Management Policy.

All WACHS clinical records must be managed in accordance with Health Record Management Policy.

7. Evaluation

Evaluation and review of this Plan will occur at least triennially by the Area Chief Medical Imaging Technologist.

8. Standards

National Safety and Quality Health Service Standards: 1.06, 1.25, 1.29

Diagnostic Imaging Practice Standards
Standard 1.3 – Radiation Standard
Standard 1.5 – Equipment Servicing Standard
Standard 2.3 – Patient Identification and Procedure Matching Standard
Standard 3.2 – Optimised Radiation Technique Charts Standard

9. Legislation

Radiation Safety Act 1975 (WA)
Radiation Safety (General) Regulations 1983 (WA)
Radiation Safety (Qualifications) Regulations (1980)
Work Health and Safety Act 2020 (WA)
Work Health and Safety (General) Regulations 2022

10. References

Australian Radiation Protection and Nuclear Safety Agency 2020, *Code for Radiation Protection in Planned Exposure Situations*, Radiation Protection Series C-1, Revision 1, ARPANSA, Yallambie.

Australian Radiation Protection and Nuclear Safety Agency 2019, *Code for Radiation Protection in Medical Exposure*, Radiation Protection Series C-5, ARPANSA, Yallambie.

Australian Radiation Protection and Nuclear Safety Agency 2008, *Safety Guide for Radiation Protection in Diagnostic and Interventional Radiology*, Radiation Protection Series No. 14.1, ARPANSA, Yallambie.

Australian Radiation Protection and Nuclear Safety Agency, *Aprons for protection against X-rays*, ARPANSA, Yallambie. Accessed 01 October 2021.

Radiological Council of Western Australia 2019, *Responsibilities of the Registrant*, Radiological Council, Nedlands.

Radiological Council of Western Australia 2019, *Responsibilities of the Radiation Safety Officer*, Radiological Council, Nedlands.

Radiological Council of Western Australia 2015, *Diagnostic X-Ray Equipment Compliance Testing Program Requirements,* Radiological Council, Nedlands.

11. Related Forms

Nil

12. Related Policy Documents

WACHS Imaging Clinical Practice Standard
WACHS Patient Identification Policy
WACHS Radiology - Imaging Pregnant Patients Procedure
WACHS Role and Responsibility of Approved Radiographers (MIT) and X-ray Operators Policy

13. Related WA Health System Policies

WA Health Consent to Treatment Policy

14. Policy Framework

Clinical Governance, Safety and Quality

15. Appendices

Appendix 1: Registrants
Appendix 2: Medical Incident Reporting Requirements

This document can be made available in alternative formats on request for a person with a disability

Contact:	Area Chief Medical Imaging Technologist		
Directorate:	Medical Services	**EDRMS Record #**	ED-CO-14-33685
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Appendix 1: Registrants

Region	Site	Registrant
Goldfields	Esperance	Operations Manager
	Kalgoorlie	Operations Manager
	Laverton	Health Service Manager / Director of Nursing
	Leonora	Health Service Manager / Director of Nursing
	Norseman	Health Service Manager
Great Southern	Denmark	Health Service Manager / Director of Nursing
	Katanning	Health Service Manager
	Plantagenet	Health Service Manager / Director of Nursing
	Ravensthorpe	Health Service Manager
Kimberley	Broome	Operations Manager
	Derby	Operations Manager
	Fitzroy Crossing	Operations Manager
	Halls Creek	General Manager
	Kununurra	General Manager
	Wyndham	Operations Manager
Midwest	Carnarvon	Operations Manager
	Exmouth	Clinical Nurse Manager
	Geraldton	Operations Manager
	Kalbarri	Operations Manager
	Meekatharra	Health Service Manager / Director of Nursing
	Morawa	Operations Manager
Pilbara	Karratha	Operations Manager
	Hedland	Operations Manager
	Newman	Operations Manager
	Onslow	Operations Manager
	Paraburdoo	Operations Manager
	Tom Price	Operations Manager
South West	Augusta	Regional Director
	Bridgetown	Regional Director
	Bunbury	Regional Director
	Collie	Regional Director
	Donnybrook	Regional Director
	Harvey	Regional Director
	Margaret River	Regional Director
	Pemberton	Regional Director
	Warren	Regional Director
Wheatbelt	Beverley	Health Service Manager
	Boddington	Health Service Manager / Director of Nursing
	Bruce Rock	Health Service Manager
	Corrigin	Health Service Manager / Director of Nursing
	Cunderdin	Health Service Manager
	Dalwallinu	Health Service Manager / Director of Nursing
	Goomalling	Health Service Manager / Director of Nursing
	Jurien Bay	Manager
	Kellerberrin	Health Service Manager / Director of Nursing
	Kondinin	Health Service Manager / Director of Nursing
	Kununoppin	Administrator
	Lake Grace	Health Service Manager
	Merredin	Health Service Manager
	Moora	Health Service Manager
	Narembeen	Health Service Manager
	Narrogin	Health Service Manager
	Northam	Director of Clinical Services
	Pingelly	Clinical Nurse Manager
	Quairading	Health Service Manager
	Southern Cross	Health Service Manager
	Wagin	Health Service Manager / Director of Nursing
	Wongan Hills	Health Service Manager
	Wyalkatchem - Koorda	Health Service Manager
	York	Health Service Manager

Appendix 2: Medical Incident Reporting Requirements

RADIATION SAFETY ACT

CONDITIONS, RESTRICTIONS AND LIMITATIONS (SECTION 36)

MEDICAL INCIDENT REPORTING

1. This registration condition relates to the reporting requirements for medical incidents specified below in addition to those specified under Section 19A of the Radiation Safety (General) Regulations 1983.

2. The registrant is directed to ensure that the following incidents are reported in writing to the Radiological Council within 7 days:

    2.1. any procedure other than as prescribed, including any diagnostic procedure or therapeutic treatment delivered:

        2.1.1. to the wrong patient;

        2.1.2. to the wrong site on the patient;

        2.1.3. using the wrong modality, beam type or beam quality;

        2.1.4. using the wrong radionuclide.

    2.2. any diagnostic procedure resulting in an observable acute radiation effect.

    2.3. when during the administration of a radioactive substance (sealed or unsealed) for therapeutic purposes, the activity administered differs from that prescribed by 15% or more.

    2.4. when during the administration of a therapeutic dose of radiation from irradiating apparatus or a sealed radioactive source, the dose delivered differs from the total prescribed treatment dose by more than 10%a.

    2.5. inadvertent or unjustified radiation exposure of a pregnant patient that has or is likely to result in a radiation dose to the embryo or foetus of more than 1 mSv.

    2.6. inadvertent or unjustified administration of a radioactive substance to a lactating patient where the radiation dose to the nursing child is likely to be in excess of 1 mSv.

    2.7. where a patient dies with radioactive substances above the relevant exemption level in situ; and where the situation has not been dealt with according to approved procedures.

    2.8. any procedure involving the use of a class 3B or 4 laser where there is actual injury, or the potential for injury, as a result of operator error, damage or malfunction of equipment, or failure of management systems.

2.9. other incidents warranting reporting, for example near-miss situations where there is a potential benefit for other users to be alerted.

3. The registrant must comply with Section 19A (2) and 19A (3) of the Radiation Safety (General) Regulations 1983, which outline the follow up actions and reporting requirements for incidents captured under point 2 above.

NOTES

a. This value is more stringent than the value of 15% as prescribed in Section 19A of the Radiation Safety (General) Regulations 1983.

Version: Sept 2013