



Radiation Management Plan (RMP)

For: The University of Tasmania

Holder of licenses L/001111, L/001112 and L/001113 to possess

For the practice of: Research and Teaching

To be carried out at the University of Tasmania's:
Sandy Bay Campus, Hobart
Newnham / AMC Campus, Launceston
Inveresk Campus, Launceston
Cradle Coast Campus, Burnie
Medical Sciences Precinct, Hobart
Hunter Street Campus, Hobart
IMAS Campus Salamanca Place, Hobart

Plan prepared by: University Radiation Safety Officer, Work Health Safety Unit, Human Resources

Date: 2015

Contact details: Private Bag 46, Hobart TAS 7001
Tel: 62267509
Fax: 62622751
email: health.safety@utas.edu.au
Mobile: 0419267509
Web: www.human-resources.utas.edu.au

Plan accepted by: Vice-Chancellor, University of Tasmania

Who hereby agrees that the University will adhere to all requirements in the plan

Signature: 
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(Professor Peter Rathjen)

Date: 17 February 2015

Date for next review of the plan: April 2017

Introduction:

This plan has been prepared in accordance with Regulation 8 of the *Radiation Protection Regulations 2006*. The purpose of this plan is to ensure that the practice of using ionising and non-ionising radiation (lasers) for the purposes of research and teaching is conducted as safely as possible and in compliance with the *Radiation Protection Act 2005* and the *Radiation Protection Regulations 2006*.

Compliance with this radiation management plan will help ensure that the radiation doses to users, other persons involved in the practice, members of the public and the environment are below the prescribed limits and are as low as reasonably achievable. It will also help ensure that the number of people exposed to radiation and the likelihood of unexpected exposure to radiation are minimised.

The plan is to be read by everyone using ionising and non-ionising radiation (lasers) for the purposes of research and teaching at the University of Tasmania

Information required by Regulation 8, Radiation Protection Regulations 2006	Details
(a) a brief description of the type and scope of the radiation practice;	<p><i>Lasers (Class 3B and Class 4) are used in research projects only by authorised staff (licensed on L/001111) and postgraduate students.</i></p> <p><i>X-ray equipment is used in research projects only by authorised staff (licensed on L/001112) and postgraduate students.</i></p> <p><i>Unsealed radioactive material is used in research projects only by authorised staff (licensed on L/001113) and postgraduate students.</i></p> <p><i>Sealed radioactive material is used in research projects only by authorised staff (licensed on L/001113) and postgraduate students.</i></p>
(b) a list of the radiation sources dealt with in the radiation practice;	<p><i>As per Schedule 1 part A of licenses L/001111, L/001112 and L/001113.</i></p>
(c) an assessment of the potential hazards from the radiation sources dealt with in the radiation practice;	<p><i>Lasers pose a potential eye and skin hazard.</i></p> <p><i>Unsealed radioactive material poses an external and internal exposure hazard.</i></p> <p><i>X-ray equipment poses a potential external exposure hazard.</i></p> <p><i>All projects involving the use of ionising and non-ionising radiation at the University must undergo a</i></p>

	<p>risk assessment as per Responsibilities of the University of Tasmania's Radiation Safety Minimum Standard. University Risk Matrix available at Risk Management Audit Assurance (RMAA).</p>
<p>(d) details of the environment likely to be exposed to radiation during the radiation practice;</p>	<p><i>Most projects involving the use of ionising and non-ionising radiation are carried out at University premises that have been registered under the Radiation Protection Act 2005.</i></p> <p><i>On occasion projects may involve the use of ionising and non-ionising radiation in the "field". These projects are subject to a risk/hazard assessment as per 1.5, 2.6 of the University of Tasmania's Radiation Safety Minimum Standard.</i></p>

<p>(e) the radiation principles, work practices (including quality-assurance procedures) and equipment (including personal radiation monitors) used to ensure that radiation exposure of persons or the environment is as low as is reasonably achievable during typical types of work carried out within the radiation practice;</p>	<p>Section 4 of the University of Tasmania's Radiation Safety Minimum Standard, describes the process projects involving the use of ionising and non-ionising radiation must follow within the University. These processes have been designed to be compatible with the requirements of the Radiation Protection Act 2005 and Regulations.</p> <p><i>Relevant sections are:</i></p> <p><i>1.2 All uses of radiation must achieve activity levels "As low as readily achievable", (ALARA) and shall address the licence conditions of justification, minimisation and optimisation.</i></p> <p><i>1.3 New Proposals for the Use of Regulated Radiation. Appendix 1</i></p> <p><i>1.4 Application for a Licence Variation (Authorised Person/s). Appendix 1</i></p> <p><i>1.5 Approved Premise is a registered Place of Radiation</i></p> <p><i>1.7 Approval Process</i></p> <p><i>2.0 Personal Monitoring</i></p> <p><i>2.1 Health surveillance</i></p> <p><i>2.2 Induction and Training</i></p> <p><i>2.4 Radiation Management System (RMS)</i></p> <p><i>2.5 Annual Inspections</i></p> <p><i>2.5 Annual Report</i></p> <p>The University of Tasmania's Radiation Safety Minimum Standard covers the use of</p>
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	<p>Personal Protective Equipment (PPE). The use of personal monitoring and survey meters and contamination monitoring is addressed in section 2.2 of the University of Tasmania's Radiation Safety Minimum Standard, which lists the topics covered by "training".</p>
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(f) details of the classes of persons likely to be exposed to radiation during the radiation practice, including –	Staff, postgraduate students and members of the public.
(i) children; and	Only authorised access is permitted to sites where ionising and non-ionising radiation sources are used. Children are excluded from these locations.
(ii) pregnant women; and	Pregnant women (staff or postgraduate students) may continue to work with ionising radiation provided the fetus is afforded the same level of radiation protection as a member of the public (1mSv). This is consistent with the requirements in the ARPANSA "Radiation Protection Series 1".
(iii) volunteers in biomedical research; and	All research involving volunteers is subject to Ethics Committee approval.
(iv) persons exempt from section 13(1) of the Act under Part 10;	<p>Refer to Section 1.9 of the University of Tasmania's Radiation Safety Minimum Standard.</p> <p>Postgraduate students who use ionising and non-ionising radiation as part of their studies are exempt from licensing (section 13(1) part 10 of the Radiation Protection Act 2005. Postgraduate students will still undergo radiation safety training as required by the University of Tasmania's Radiation Safety Minimum Standard and will be supervised by a qualified (radiation safety) and authorised (licensed) University staff member when they are performing work involving the use of ionising or non-ionising radiation.</p>

<p>(g) the maximum dose of radiation it is anticipated a person of a class of persons specified in paragraph (f) will receive while the radiation principles, work practices and equipment referred to in paragraph (e) are being used, and the action to be taken if those doses are exceeded;</p>	<p><i>It would be expected that no person would receive an exposure in excess of 1 mSv per annum. The exception to this may be volunteers in an Ethics approved project e.g. clinical trial</i></p>
<p>(h) details of a course of study or training that –</p> <p>(i) is being or will be undertaken by a person who is expected to be dealing with a radiation source in the radiation practice; and</p> <p>(ii) requires, as part of that course of study or training, the person to deal with the radiation source in the radiation practice;</p>	<p><i>Postgraduate students studying for a higher degree, Masters or PhD</i></p> <p><i>Faculty of Science and Faculty of Health use small quantities of unsealed P-32 and C-14. The activity “per experiment” is often below the exempt activity for these materials. As part of their training and examination on radiation safety, the student performs a risk assessment for the handling of these unsealed materials. These assessments often show that potential internal exposure is low, expressed in units as microsieverts.</i></p> <p><i>X-ray, XRD equipment, CT equipment including spiral and EBCT may also be used by postgraduate students in their study for a higher degree.</i></p> <p><i>Laser equipment may also be used by postgraduate students in their study for a higher degree. Wherever possible, class 1 or class 2 lasers should be used or purchased.</i></p>
<p>(i) the name, qualifications and experience of the supervisor of a person referred to in paragraph (h)(i) while undertaking that part of a course of study or training referred to in paragraph (h)(ii);</p>	<p><i>Each postgraduate student will have a supervisor for their research. The University of Tasmania’s Radiation Safety Minimum Standard nominates these people as Officers, Managers, Supervisors and authorised persons, who have responsibility for the welfare and safety of postgraduate students carrying out their research.</i></p>
<p>(j) the training and information to be provided to persons involved in carrying out the radiation practice;</p>	<p><i>The University of Tasmania’s Radiation Safety Minimum Standard, section 2.2</i></p>
<p>(k) the name and contact details of the radiation safety officer for the radiation practice;</p>	<p><i>The University’s Work Health Safety Unit designated Radiation Safety Officer is the University Radiation Licence Contact Officer. Contact details are at the front of this document.</i></p> <p><i>Other Radiation Safety Officers (RSOs) are listed for numerous University sites and may be found on licenses L/001111, L/001112 and L/001113.</i></p>

<p>(l) a brief description of the role of the radiation safety officer;</p>	<p>The University of Tasmania's Radiation Safety Minimum Standard, section "responsibilities" details the responsibilities for the University's Radiation Safety Officer and the various other Radiation Safety Officers.</p>
<p>(m) a brief description of the resources available to the radiation safety officer to enable him or her to perform his or her role under the radiation management plan;</p>	<p>The University of Tasmania's Radiation Safety Minimum Standard provides details on the available resources. External consultants are available for each RSO. The University WHS Unit has an overview role for coordination of radiation safety and a commitment from Schools for budget items required for radiation safety utilising external consultants engaged by Organisational Units.</p>
<p>(n) a description of the roles and responsibilities, that are relevant to a dealing with the radiation source in the radiation practice, of all persons authorised by the licence to deal with the radiation source in the radiation practice;</p>	<p>The University of Tasmania's Radiation Safety Minimum Standard provides details on roles and responsibilities</p>
<p>(o) the methods used to ensure that the persons referred to in paragraph (n) are aware of their obligations under the Act and the licence;</p>	<p>The University of Tasmania's Radiation Safety Minimum Standard is a web based document (University intranet) and all staff and students must have read and be aware of the parts that relate to their use of radiation sources. This Radiation Management Plan will also be available to staff and students as an overview of the University of Tasmania's Radiation Safety Minimum Standard.</p>
<p>(p) details of how the radiation source in the radiation practice will be prepared for use, repaired, maintained, transported, stored and disposed of;</p>	<p>The University of Tasmania's Radiation Safety Minimum Standard, "Radiation Safety Checklist", Appendix 1 provides these details.</p>
<p>(q) details of any emergency response plans for the radiation practice including reporting to the Director of Public Health;</p>	<p>The University of Tasmania's Radiation Safety Minimum Standard, section 2.7 requires each site at the University to prepare and maintain emergency procedures.</p>
<p>(r) details of procedures that are designed to minimise the radiation hazard arising from a radiation incident;</p>	<p>See above</p>
<p>(s) details of reporting procedures for incidents adversely affecting, or likely to adversely affect –</p> <ul style="list-style-type: none"> • equipment used in the radiation practice; or 	<p>The University of Tasmania's Radiation Safety Minimum Standard, "Radiation Safety Checklist" – staff and students are aware that they are required to report to the RSO any instances of known or suspected unsafe practices or incidents/accidents.</p>

<ul style="list-style-type: none"> • the environment; or • the health or safety of any person; 	<p><i>The University also has a general WHS on-line incident reporting system</i></p>
<p>(t) details of record-keeping requirements including details of the records that will be kept of movement of any mobile radiation source in the radiation practice;</p>	<p>The University of Tasmania's Radiation Safety Minimum Standard, Section 2.4 refers to the University register of radiation sources available as a web database.</p>
<p>(u) details of the use of radiation warning signs and labels in the radiation practice.</p>	<p><i>All places at the University where ionising and non-ionising radiation are used are registered under the Radiation Protection Act 2005. There are conditions on those registrations that require the use of warning signs.</i></p>

Referenced documents:

- Radiation Protection Regulations 2006
- Radiation Protection Act 2005
- ARPANSA "Radiation Protection Series-The Radiation Protection Series of publications is a new series published by ARPANSA. There are currently 26 publications in the series

Referenced documents

The University of Tasmania's Radiation Safety Minimum Standard.