Radiation Control at the University of Queensland

1. Regulatory provisions: the radiation control legislation

The Queensland radiation control legislation consists of the principal act: The *Radiation Safety Act 1999*, and the subordinate legislation: the *Radiation Safety Regulation 2010*.
Under the *Act*, licences are required for the possession, use or transport of radioactive substances and for the possession, use or sale of radiation apparatus.

Licences are granted with particular conditions attached; often these will specify safety measures additional to those required under the *Regulation*. The licensee has the responsibility to ensure that both the *Regulation* and the licence conditions are complied with. While a licensee can delegate virtually all his or her statutory duties, the ultimate responsibility cannot be delegated.

The possession authority for major sealed radioactive sources and radiation apparatus (i.e. X-ray machines) has been granted to the University as a body corporate, under the administrative authority of the Executive Director (Operations). Other possession licences (particularly those for unsealed source use in the biomolecular research field) are granted at the School, Centre or Institute level.

Users of radiation sources, whether X-ray or radioactive substances, are generally required to hold use licences under the legislation. Some trivial sources or those with significant engineering controls may be used by unlicensed persons under conditions given in the *Regulation*. However, although the radioactive source may not be licensable it still may be required to be disposed of as a radioactive substance. Persons in training to use radiation sources for which a use licence is required may do so only under the direct supervision and in the presence of an appropriate licensee.

The system of individual licensing reflects the observation that where persons in the workplace are given responsibilities for safety, as well as duties, the result is an improvement in the safety culture of the workplace.

2. Duties and responsibilities of University personnel

2.1 Possession licensees

Possession licensees have responsibilities in setting the conditions under which the radiation sources are used. The principle responsibilities are as follows.

Ensure that compliance certificates are obtained for premises and equipment where required under legislation.
Ensure that Radiation Safety and Protection Plans are submitted for approval to Queensland Health and put into effect in the practices authorised by the possession licence.

Ensure that an Approval to Acquire is obtained from Queensland Health before acquiring radioactive substances or radiation apparatus.

Ensure that an appropriately certified person is appointed as Radiation Safety Officer for each of the practices authorized under the possession licence.

2.2 User Licensees

In general, only appropriately licenced persons can be permitted to use radiation sources. Persons who have been granted licences to use radiation sources are required to comply with the Radiation Safety & Protection Plan

for the practice in which they are working. They may also have to comply with specific conditions attached to their licences.

Unless a specific exemption is allowed for a particular radiation source (or practice) by the *Regulation*, a use licence is required. Students learning to carry out a radiation practice may do so without a licence only while under the direct supervision and in the presence of a current licence holder. Where the practice involves irradiation of a human patient there are no exemptions and a student licence must be obtained before beginning work. The only current area where this applies to University of Queensland students is dental radiography.

In general, all radiation workers, including those working under exemption provisions are required by UQ Radiation Safety & Protection Plans to comply with the following basic rules:
Obey all instructions and directions issued by the practice RSO concerning radiation hazards, safe working practices, and precautions to be taken to avoid excessive exposure.
Perform work in accordance with the approved Radiation Safety and Protection Plan applicable to that particular practice.

Use all appropriate devices supplied for the purpose of radiation protection.
Notify the practice RSO of any defect in equipment or procedures which might affect radiation safety.
Complete and submit a radiation project approval for each of their projects as detailed in the applicable radiation safety and protection plan.

More information regarding the submission of project approvals is given in the OHS Unit advisory note ***Guidelines for research projects using radiation sources***.

2.3 Radiation Safety Officers

The *Radiation Safety Act 1999* requires each possession licensee to appoint an appropriately qualified RSO. The RSO must hold a Radiation Safety Officer Certificate relevant to the radiation practice. Generally only one RSO is appointed for each particular practice or operating site, although an appropriate deputy should be available to act as RSO in the absence of the principal officer.

Be aware that "Practice" can also mean a particular procedure or class of work for which it might be desirable to have a specially appointed RSO.

Section 37 of the *Act* sets out the functions of an RSO; these are necessarily general and it is common for additional duties to be included in Radiation Safety & Protection Plans.

The most important duties of an RSO in a university school or research centre may be summarised as follows.
Be adequately informed of the radiation hazards associated with the practice.

Ensure all that facilities and equipment continue to comply with the applicable Radiation Safety Standards issued under the *Regulation* and that current compliance certificates are held.

Provide (or arrange for) instruction and training in radiation safety principles and safe working methods for persons who use radiation sources.
Assess persons for competence in practical radiation safety and knowledge of the local Radiation Safety & Protection Plan and provide advice to the statutory authority as required.

Maintain accountability for radiation sources used under the possession licence authority and ensure the licensee is adequately informed of any issues that might affect radiation safety or of any actions needed to be taken to ensure compliance with the Plan or *Regulation*.

Keep the required records, eg radiation monitoring results, equipment maintenance, source shipments, waste management etc. records should also be kept of the training given to workers in radiation safety.

Supervise the management of radioactive wastes and provide specialist advice and assistance where necessary to ensure safety, e.g. incident recovery and clean-up operations.

Assess new projects for compliance with safety requirements. The RSO must ensure that records are kept of all assessments and approvals.

2.4 The University Radiation Protection Adviser (URPA)

The URPA is one of the occupational health and safety advisers appointed to the OH&S Division. The URPA serves as the primary source of advice and expertise on radiation related matters within the University.

The position also has an overseeing role to ensure that the University complies with the relevant legislative requirements. This oversight takes the form of safety audits, radiation project approvals and general and specific advice to licensees and RSOs. The coordination and/or provision of radiation safety training is also undertaken.

3. The UQ Radiation Safety Committee

The Radiation Safety Committee (RSC) reports to the Occupational Health and Safety Council and was established to co-ordinate, monitor and advise on all ionizing radiation issues arising from practices authorised under possession licences issued to the University both as a body corporate and to its schools, centres and institutes
The committee is chaired by the Director OHS with representatives from faculties and institutes, nominated by heads of school or centre directors - with consideration given to the amount and nature of the radiation work undertaken.

Contact for Additional Information

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