

Radiation safety guide

Purchasing and using X-ray units and sealed sources in South Australia

Introduction

If you are a business in South Australia (SA) and are seeking to purchase an X-ray unit or a sealed radioactive source, there are a number of regulatory requirements that need to be met. The relevant legislation are the SA Radiation Protection and Control Act (1982), and the SA Radiation Protection and Control (Ionising Radiation) Regulations 2015. The requirements are summarised below.

If you need information regarding how to comply in other States or Territories, please contact SA Radiation.

Step 1: Appointment of RSO

Owners of X-ray units or sealed radioactive sources need to appointment a Radiation Safety Officer (RSO). This may be a person who has appropriate radiation safety knowledge (typically this is demonstrated by holding an SA radiation use licence), or the role can be performed by an external person. Full details regarding the knowledge required by the RSO, and the RSO nomination process, are provided in Regulation 14.

SA Radiation staff act as the statutory RSO for a number of companies in SA and nationally.

The duties of the RSO are to provide guidance to the owner regarding:

- how to comply with legislation,
- best practice regarding radiation safety, and
- assisting with radiation event investigations.

In addition to the above statutory duties, the RSO is typically liaises with the EPA on matters such as renewal of licences and registrations, reviewing radiation badge results, and conducting periodic reviews of the Radiation Management Plan.

Step 2: Prepare a Radiation Management Plan (RMP) and Safe Work Procedures (SWP)

The RMP and associated SWPs set out how radiation safety will be managed by your company, including exposure pathways, controls, monitoring and incident management. These documents need to be submitted with an SA EPA Licence to Possess application.

Some guidance material to assist with writing an RMP appropriate to your industry (medical, mineral exploration, industrial radiography, etc) is provided on the SA EPA website.

The RMP and SWPs can be prepared by a person from your company, or by SA Radiation.

Step 3: Apply for a Licence to Possess (LtP)

As per Section 33a of the Act, a LtP application needs to be submitted to the SA EPA. A valid application is one that includes the nominated RSO, a copy of the RMP and SWPs, and the relevant fee. The application must also nominate a person to be the 'Responsible Person' for your business. This is typically a person in senior management. SA EPA will not accept a person who is external to your business to be the Responsible Person.

The LtP application form can be downloaded from the EPA website, or the application can be made through their online portal.

NB: you must be issued with a LtP before taking possession of an X-ray unit or sealed radioactive source.

Step 4: Apply to register your X-ray units or sealed radioactive sources

Before X-ray units and sealed radioactive sources arrive on your premises, you must have an LtP and you must apply to register the X-ray units/sources. Registration application forms for X-ray units and sealed radioactive sources are available on the SA EPA website.

The application forms include field for serial numbers of sources, X-ray tube inserts, etc. It is often the case that serial numbers are not known at the time of ordering the X-ray unit/sealed radioactive source. If this is the case, enter 'TBA' (To Be Advised) in these fields.

When the registration applications are received by the EPA and funds are cleared, the EPA will send you an acknowledgement letter. The letter typically states that licensed persons may use the X-ray units and sources. For medical X-ray units, the EPA will require you to arrange a compliance test to be conducted by an accredited tester within 3 months. For other X-ray units, and all sealed radioactive sources, the EPA will conduct an inspection.

SA Radiation are accredited to test all medical X-ray units except mammographic X-ray units. SA Radiation can also conduct inspections of non-medical X-ray units and sources to identify any shortcomings prior to an EPA inspection.

Note that some sources do not require registration (Regulation 142). SA Radiation can assist with identifying whether this is the case for your sources.

Step 5: Apply for a licence to use X-ray units or sealed radioactive sources

Users of X-ray units and sources generally need to hold a radiation use licence. There are some exceptions, as detailed in Regulations 56 and 124. There are also gazetted exemptions.

Application forms are available on the SA EPA website. You must be issued with a use licence before you can use an X-ray unit or source. In the application, you need to provide details regarding what you wish to do with the X-ray unit or source. These details help the EPA determine the licence conditions you will need to be assigned on your licence.

The EPA may grant a licence based on you holding a prescribed qualification (a degree in dentistry, radiography, etc), grant a licence based on holding an equivalent licence interstate, or direct you to sit a written exam and grant a licence if you pass.

SA Radiation has a range of courses designed to assist people to prepare for the SA EPA exams.

Summary

There are a number of licences, registrations and radiation safety documents that need to be obtained prior to starting work with X-ray units and sealed radioactive sources. All of the tasks above can be prepared or managed by a person within your company. Alternatively, SA Radiation can assist with some or all of this work.

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Disclaimer: This document is based on information from the SA EPA and experience gained by SA Radiation staff. While every effort has been made to ensure the information reflects current requirements of the SA EPA, SA Radiation takes no responsibility for the accuracy of the information. If in doubt, you should contact the SA EPA for confirmation.