



CIRCULAR

Industrial Radiography

This circular is relevant to all registration and licence holders under the Radiation Safety Act 1975 for the possession and use of *industrial radiography* equipment.

Amended Conditions of Registration and Licence

The Radiological Council has agreed to amendments to the conditions, restrictions and limitations imposed under Section 36 of the Radiation Safety Act that now applies to licences and registrations for industrial radiography. The conditions form part of the licence and registration certificate and clarify certain requirements for industrial radiography for both owners and users.

The amended conditions –

- adopt the revised **Code of Practice**;
- formalise the requirements for a **Radiation Management Plan**; and
- impose requirements on radioactive substances licence holders to comply with the registrant's **Source Security Plans**.

Code of Practice

The Australian [Code of Radiation Protection Requirements for Industrial Radiography \(2018\)](#), published by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) as RPS C-4ⁱ, has been adopted. This replaces the 1989 version of the Code published by the National Health and Medical Research Council, which is referenced in the Radiation Safety (General) Regulations and previous conditions for industrial radiography.

Radiation Management Plan

Both RPS C-4 and the Australian [Code for Radiation Protection in Planned Exposure Situations \(2016\)](#), published by ARPANSA as RPS C-1ⁱⁱ, require the development of a

Radiation Management Plan (RMP) by the registrant. Registrants and licence holders are required to implement the RMP.

The RMP effectively replaces the requirements for working rules and emergency procedures from the 1989 Code. It is the company's primary document that details how it will manage the equipment and risks associated with radiation. It must outline the individual procedures or may draw reference to other standard operating procedures.

RMPs for existing registrations for industrial radiography do not need to be submitted to the Radiological Council but must be available upon request by an officer authorised under the Radiation Safety Act. Amendments to incorporate the revised requirements must be addressed **by 30 June 2022**.

Source Security Plans

The Australian [Code of Practice for the Security of Radioactive Sources](#), published by ARPANSA as RPS11ⁱⁱⁱ, applies to security enhanced sources as defined in that Code via the conditions imposed on a registration.

Radioactive substances used for industrial radiography are often security enhanced and registrants are therefore required to prepare a Source Security Plan and Source Transport Security Plan, which must be endorsed by an accredited assessor.

Amendments to the conditions for radioactive substances licence holders now explicitly require the licensee to comply with the registrant's security plans.

Personal Radiation Monitoring

For the use of personal radiation monitoring badges (eg OSL or TLD) for industrial radiography, the **prescribed monitoring period is one month**. If you are currently replacing your badges less often than one month, you will need to amend the arrangements with your personal radiation monitoring service provider.

Consideration should also be undertaken in the RMP for potential incidents involving badges. The Council has previously investigated and been notified of incidents where –

- the badge assigned to a worker has received a high dose;
- a worker has lost their badge;
- a worker has dropped their badge in an area where radiography was performed;
- the badge remained in the pocket of an outer layer of clothing that was removed and left near a source of radiation;
- a worker has travelled with their badge and has inadvertently let it be scanned in the x-ray equipment at an airport with hand or checked in luggage.

Under Regulation 25 of the Radiation Safety (General) Regulations, instructions need to be provided from the registrant to each worker on the proper use and care for the badge that has been assigned to them. These instructions should also be included in the RMP.

False High Doses

A review of false high doses on personal radiation monitoring badges has recently been undertaken nationally^{iv} with doses identified as being from exposure of the badge at airport luggage security screening.

To maintain the integrity of dose records for radiation workers who frequently require baggage security screening, these badges should not be placed through x-ray scanners. Instead they should be declared at the security screening point and be checked by alternative screening processes.

Incident Reporting

Incidents involving radiation are required to be reported to the Radiological Council in writing within 7 days of the incident. However, Council must be notified immediately where there has been a loss or theft of a source of radiation.

The cause of the incident must be determined and steps taken to prevent a recurrence. Incident report forms are available for use on the Council's website.

Reportable Doses

Regulation 15 provides the requirements for reportable doses. For the one-month monitoring period prescribed for industrial radiography, the following reporting provisions apply –

- *for doses above 0.5 mSv but less than 1.67 mSv*
a report on the circumstances of the dose is to be placed on the employee's personal file;
- *for doses above 1.67 mSv but less than 8.3 mSv*
investigate the excessive dose and provide a written report to the Council within 7 days as to its probable cause; and
- *for doses above 8.3 mSv*
investigate the dose and provide a written report to the Council **immediately** as to its probable cause.

ⁱ <https://www.arpana.gov.au/regulation-and-licensing/regulatory-publications/radiation-protection-series/codes-and-standards/rpsc-4>

ⁱⁱ <https://www.arpana.gov.au/regulation-and-licensing/regulatory-publications/radiation-protection-series/codes-and-standards/rpsc-1>

ⁱⁱⁱ <https://www.arpana.gov.au/regulation-and-licensing/regulatory-publications/radiation-protection-series/codes-and-standards/rps11>

^{iv} <https://www.arpana.gov.au/about-us/advisory-council-and-committees/radiation-health-committee/radiation-health-committee-statements/statement-wearable>