

Security of sealed radioactive sources

Issued February 2023

EPA 1132/23: The purpose of this guidance document is to inform people dealing with sealed radioactive sources about their responsibilities to limit radioactive sources from being acquired by others and the consequences of malicious use. With the Radiation Protection and Control Act 2021 and Radiation Protection and Control Regulations 2022, people dealing with sealed radioactive sources should be aware of new obligations following adoption of ARPANSA's Code of Practice for the Security of Radioactive Sources.

1 Scope

This guidance document provides an overview on the requirements when dealing with sealed radioactive sources including categorisation, source security plan, source transport security plan and the identity/security background checks required.

Note that the *Code of Practice for the Security of Radioactive Sources* applies to a person when dealing with a sealed radioactive source other than in circumstances where the *Civil Aviation Act 1988* or the *Navigation Act 1912* apply.

Industry sectors which are likely to be impacted by the changes include, but not limited to, the health sector (blood irradiators, radiotherapy, brachytherapy), and the industrial, non-destructive testing (NDT), mining, oil and gas sectors (panoramic irradiator, research irradiator, borehole well logging, fixed gauges, moisture and density gauges).

2 Legislation

- [Radiation Protection and Control Act 2021](#) (RPC Act)
- [Radiation Protection and Control Regulations 2022](#) (RPC Regulations)
- [Code of practice for the security of radioactive sources](#) (Security Code), Radiation Protection Series No. 11, published by ARPANSA (2019)

3 Sealed radioactive sources

Sealed radioactive source means radioactive material that is sealed in a capsule or associated with a material to which it is closely bonded, being a capsule or bonding material that is strong enough to maintain leak-tightness of the sealed source under conditions of use and for which it was designed. For details on prescribed sealed sources, refer to Regulation 20.

As per the Security Code sealed radioactive sources are classified into five categories based on their radioactivity level and security risks – Category 1 (highest risk) to Category 5 (lowest risk). Each source and/or any source aggregate's classification into these categories is determined as per Schedule B of the Security Code. Sealed radioactive sources are considered to be aggregated if two or more sealed radioactive sources are in one location and breach of a common

physical security barrier (eg a locked door at the entrance to a storage room) would allow access to the sources or devices containing these sources.

Due to the higher risk level, Category 1, 2 and 3 sealed sources (or similar activity ratio aggregates) are considered security enhanced sources. Category 4 and 5 sealed sources have requirements on accountability, record keeping and notification of security breaches (chapter 7 of Security Code).

Sealed radioactive sources are also classified as fixed, mobile and portable sources based on structure of source assembly and the provision of movement for these source assemblies. Interpretation of these source types is in the glossary of the Security Code.

4 Licence-holders

Licence holders are responsible for complying with legislative requirements associated with their operational field. For the purpose of compliance, the Security Code describes duties of a responsible person and defines 'responsible person' as a natural person or body corporate that has direct management responsibility for the security of the source or premise or the overall control over who may use the source or premise.

When dealing with sealed radioactive sources, the responsible person should prioritise keeping the sources safe and secure, avoid accidental exposure of workers, public and the environment and inhibit any potential unauthorised access to or acquisition of these sources by a natural person with malicious intent. Demonstration of how these requirements are achieved are to be detailed in a security plan.

Current licence-holders are now required to prepare source security plan(s) as applicable for their registered Category 1, 2 and 3 sealed sources as well as for similar activity ratio aggregates (of Category 4 and 5 sources); classed as security enhanced sources.

Update of conditions

Once the new Act and Regulations come into effect, some conditions on current authorisations will be updated. The majority of these updates will be limited to adoption of the Code and name and dates of the new legislation. From February 2023, the EPA will notify relevant persons of updated conditions.

5 Security plan

A security plan is required to be in place by the licence-holder to effectively minimise all security risks relevant to dealing with a Category 1, 2 or 3 radioactive sources (or similar activity ratio aggregates).

Where movement of a security enhanced source occurs, the source security plan, or a separate source transport security plan must detail transport safety measures.

Endorsement of security plan

A source security plan and a source transport security plan must be endorsed by an accredited assessor. The EPA recognises the assessors/security advisors as qualified and accredited after successful completion of training provided by ARPANSA. A list of [current trained assessors](#) is available at the ARPANSA website. The EPA may also recognise interstate approved assessors or trainers. Please [contact the EPA](#) should you wish to use assessors recognised by interstate authorities.

Source security plan

A source security plan is required when dealing with security enhanced sources and to detail requirements of Schedule A1 of the Security Code. The obligations to be followed by the responsible person (defined in the Security Code glossary) and other relevant operators is to be described in this plan reflecting operational relevance.

Other inclusions to be considered for the plan:

- Detail physical security measures in place when:
 - using security enhanced sources – chapter 3 of Security Code
 - storing security enhanced sources – chapter 4 of Security Code
 - transporting security enhanced sources – chapter 5 of Security Code
 - the threat level for security enhanced sources varies – chapter 6 and Schedule C of Security Code.
- Detail procedural and administrative security requirements when dealing with security enhanced sources – Schedule D of Security Code.
- Requirements on Identity checks and security background checks – Schedule E of Security Code.
- Implications from aggregation of sealed radioactive sources – Schedule B of Security Code.

Source transport security plan

A source transport security plan is required to undertake movement of the security enhanced sources and this current endorsed plan must be submitted to EPA, seven (7) days prior to undertaking any such transportation. A source transport security plan must detail the requirements as set out in chapter 5 and paragraph A2 of Schedule A in the Security Code.

6 Transportation of a security enhanced source

Security measures as detailed in chapter 5.2 must be followed during transport of these sources and a natural person must not transport a security enhanced source unless they have a legitimate reason for undertaking such transportation (eg being engaged by the responsible person), must undergo an identity check and security background check and comply with the endorsed source transport security plan.

When a change in jurisdiction is involved for Category 1 or 2 sealed radioactive sources, the intended recipient of that source must attain approval of such transfer from the regulatory authority in the jurisdiction, where the recipient resides.

7 Responsibilities

Any natural person dealing with a sealed radioactive source through use, manufacture, store, sell, receive, possess, install, operate, maintain, repair, dispose of or transport a radioactive source is accountable for complying with the Security Code as part of the RPC Act.

The responsible person (who attains a radiation management licence to possess a sealed radioactive source), when dealing with a sealed radioactive source (Category 1 to 5) must:

- comply with the Security Code, source security plan, source transport security plan, as relevant for any security enhanced source (or aggregates classed as such) under their possession and must not abandon the source without lawful excuse
- be able to always keep an account for the whereabouts of their registered sealed sources
- maintain records of the sources as outlined in chapter 7.2.2 of the Security Code
- notify the local police service and EPA, in case of security breach as detailed in chapter 7.1 of the Security Code
- not transfer ownership and/or dispose (Regulation 67) the sealed source without prior written approval (Regulation 65).

The **responsible person** dealing with security enhanced sources (Category 1, 2 and 3 or aggregates classed as such) must:

- formulate a source security plan in accordance with paragraph A1 of Schedule A of the Security Code
- have the source security plan endorsed by an accredited assessor
- ensure the source security plan is implemented and complied with

- revise, update and re-endorse the plan if any change in the environment, alteration in security arrangements or new threat information is detected, and the source security plan is no longer deemed current
- ensure that each security enhanced source is protected by measures that are developed through a risk-based process and meet the security outcomes
- undergo identity/security background check (including security assessment of the natural person by ASIO and the criminal history checks by the state and federal police) as specified in Schedule E of the Security Code. If the person fails the security background check, the Minister must be notified (Regulation 24)
- undergo checks for fixed, mobile and portable security enhanced sources (as per sections 2.1.7 and 2.1.8 of the Security Code)
- submit a current source transport security plan (upon endorsement from an accredited assessor) to EPA prior to undertaking any movement of that security enhanced source (chapter 5 of the Security Code)

All other people (who deal with a security enhanced source) must:

- have a legitimate reason for such dealing
- undergo required identity/security background checks (Schedule E of the Security Code)
- undergo checks for fixed, mobile and portable security enhanced sources (as per sections 2.3.4 and 2.3.5 of the Security Code)
- comply with the Security Code, source security plan and not abandon the source without lawful excuse
- not interfere with, remove, alter, damage or render ineffective any security measure in place to secure a sealed radioactive source except for any legitimate and required source removal, transport or a technical service (as detailed in the source security plan for that source)

Disclaimer

This publication is a guide only which does not necessarily provide adequate information in relation to every situation and is not a substitute for relevant legislation. This publication seeks to explain your possible obligations in a helpful and accessible way. In doing so, however, some detail may not be captured. It is important, therefore, that you seek information from the EPA itself regarding your possible obligations and, where appropriate, that you seek your own legal advice.

Further information

Legislation

Online legislation is freely available on <https://service.sa.gov.au/12-legislation>

General information

Environment Protection Authority
GPO Box 2607 Adelaide SA 5001
Telephone: (08) 8204 2004
Facsimile: (08) 8124 4670
Freecall: 1800 623 445 (country)
Website: <https://www.epa.sa.gov.au>
Email: epainfo@sa.gov.au
