

Guidance on decommissioning of non-nuclear facilities

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1. Scope

This guidance applies to all non-nuclear premises and is relevant throughout the lifetime of a permitted¹ premises but is particularly relevant when a permit holder is decommissioning with a view to revoking² their permit entirely or removing an area (for example a single laboratory) from radioactive use.

2. Introduction and purpose

This guidance has two purposes; it recommends the production of a decommissioning plan and explains what SEPA expects such a plan to contain (section 3), it also provides further guidance on how non-nuclear permit holders can meet the expectations contained in the high level guidance on cancelling Registrations and revoking Authorisations that has been published by SEPA.

The high level SEPA guidance sets out five Principles and three related Expectations. The three expectations are considered in the section indicated:

- return the premises to a satisfactory state (section 4);
- do so as soon as is reasonably practicable (section 5); and
- engage early with SEPA and develop and maintain an open and transparent dialogue with stakeholders (section 6).

3. Decommissioning Plan

SEPA considers it best practice that all permit holders keep and maintain a decommissioning plan. The decommissioning plan should be commensurate with the complexity of the premises and the activities involving radioactive substances carried out there.

The plan should include:

- Description of the facility, its operational history and identification of areas where radioactive substances are or have been used including any that may be contaminated by discharges, leaks or spills;
- An outline contamination monitoring protocol (not usually required for sealed source registrations);
- A description of how the facilities known to contain radioactivity will be decommissioned;
- Anticipated destinations (next user or disposal route) for all radioactive materials and wastes on the premises.

An outline decommissioning plan should be developed prior to the commencement of activities involving radioactive substances and be regularly reviewed and maintained throughout the operation of the facility. If a permit holder does not yet have a decommissioning plan consideration should be given to preparing one to a suitable

¹ When used in this document “permit” is a short-hand term that means Registrations and/or Authorisations granted under RSA93 and “permit holder” should be interpreted accordingly

² Revoke and revocation are used throughout this document to mean cancellation of a Registration and revocation of an Authorisation granted under RSA93

timescale. Ongoing consideration of this issue should allow early identification of any disposal issues that may arise. This will avoid the need for a lengthy and expensive monitoring plan at final decommissioning as best use can be made of evidence recorded throughout the life of the facility to support an application for revocation.

For sealed source registrations, SEPA envisages a relatively simple decommissioning plan involving what will be done with the sources when they are no longer required. For registrations involving HASS sources, SEPA expects regular review of the financial provision to ensure that it remains adequate for the disposal of any disused HASS sources.

4. Return to a satisfactory state

4.1 A Satisfactory State

Satisfactory state is not defined in the high-level guidance or legislation. What constitutes a satisfactory state will vary on a case by case basis as it is necessary to apply the 5 principles set out in our high level guidance whilst taking into account the characteristics of the premises in question. Recognising that there is need for more definitive guidance we have set out what we consider would be a satisfactory state for the majority of non-nuclear premises.

A satisfactory state will be achieved when:

1. The dose to any future user of the premises from any radioactive substances or contamination left in situ will be 10 μ Sv per year or less;
2. No radioactive substances (material or waste) remain on the premises that requires permitting;
3. No radioactive substances or contamination will be left on the premises that is likely to result in radioactive waste being generated in the future that will require regulatory approval to be disposed of; and
4. There are no radioactive trefoils, markings or labelling remaining on the premises.

4.2 Achieving a satisfactory state

Permit holders are required to return their premises to a satisfactory state and demonstrate that this is the case before SEPA will revoke the permit.

4.2.1 Appropriate Removal of Radioactive Substances

All Registered radioactive material and Authorised radioactive waste being kept or accumulated on the premises must be removed from the facility and its removal appropriately documented. In the case of radioactive waste, it must all be disposed of via an authorised route or in accordance with the Radioactive Substances Exemption (Scotland) Order 2011. In the case of radioactive material, it must be transferred to a person legally entitled to receive it, where this involves HASS, a HASS Record must be submitted to SEPA.

4.2.2 Remediation of Radioactive Contamination

SEPA expects permit holders to use best practical means to remediate any radioactive contamination, ideally, to a level that is indistinguishable from background levels of radioactivity. If this cannot be achieved the contamination should be remediated to ensure that it cannot give rise to a dose exceeding 10 µSv per year and so that it will not require future permitting (for example, will a contaminated building generate radioactive waste if it is demolished that would require to be authorised in order to be disposed of).

To demonstrate that these criteria have been met, it is appropriate to apply the “out of scope” values specified in Schedule 1A of the Radioactive Substances Act 1993. SEPA will consider premises where these levels cannot be met on a case by case basis.

Special attention should be given to surface contamination. Although specific activity may be low, the surface contamination may still give doses exceeding 10 µSv per year. SEPA expects that any “loose” or mobile contamination will be removed.

4.2.3 Monitoring of Radioactive Contamination

Where only sealed sources have been used, appropriate leak testing of the sources will usually be sufficient to demonstrate that no contamination is present. Where unsealed sources have been used, or a sealed source has failed its leak test, SEPA expects that best practicable means will be used to monitor the premises in order to demonstrate contamination is not present or has been appropriately remediated. Where only sealed sources have been used, appropriate leak testing of the sources will usually be sufficient to demonstrate that no contamination is present.

SEPA expects that a written contamination monitoring protocol will be produced by the permit holder or his Radioactive Waste Adviser before the monitoring is carried out. It will detail the standards to be met and methods to be applied. The protocol should be commensurate with the amount of radionuclide usage and complement the existing contamination monitoring records. The protocol will result in a consistent approach to monitoring and establish appropriate clearance criteria in light of the suite of radionuclides which were used. Details of the areas that SEPA would expect the monitoring protocol to cover are included in the appendix to this guidance.

4.2.4 Removal of Radioactive Signage

All radioactive signage and labelling (except that required for exempt radioactive substances) should be removed following the removal of permitted radioactive substances and contamination but prior to revocation. All labelling and signage must be disposed of in an appropriate and responsible manner such that it cannot be interpreted as representing the presence of radioactivity.

4.3 Demonstrating return to a satisfactory state

Records kept for the purposes of demonstrating that all radioactive substances have been removed, as well as the contamination monitoring protocol and the results of the contamination monitoring, must be available for inspection or have been submitted as part of a revocation application. An inspection of the facility may be carried out by SEPA either as part of the revocation process or as part of a routine inspection of the facility in order to confirm that the radioactive substances and associated signage and labelling have been removed.

5. Cleaning-up and monitoring as soon as is reasonably practicable

In addition to routine monitoring carried out in accordance with the Authorisation, SEPA expects that facilities are monitored and cleaned-up as soon as is reasonably practicable after they have stopped being used in relation to radioactive substances with a view to decommissioning the facility. Prompt action is preferred as best use can be made of the knowledge of what radionuclides have been used, where they have been used and the uses they have been put to.

Delays in monitoring may also lead to delays in identifying contamination which may result in it becoming difficult to manage or it spreading and creating further contamination. Such spread of contamination may be considered a breach of the permit conditions.

For the reasons set out above, SEPA also strongly recommends the progressive decommissioning of facilities as they fall out of use. This will also prevent an overly large contamination monitoring and disposal programme at the end of life of the permitted premises.

6. Engage early with SEPA and develop and maintain an open and transparent dialogue with stakeholders

6.1 Engagement with SEPA

Early engagement with SEPA should ensure that regulatory expectations are understood and avoid any unexpected requirements being imposed at a late stage. It is never too early to engage with SEPA regarding the details of a decommissioning plan.

6.2 Engagement with other stakeholders

It is for the permit holder to decide what dialogue with other stakeholders is necessary and appropriate. For example, in some circumstances it may be appropriate to engage with the next users of the premises to be able to explain the decommissioning and monitoring that has been carried out.

7. Continued Uses under the Provisions of the Exemption Order

Revocation of a permit does not prohibit the continued use of radioactive substances on the premises under the limitations and conditions of the Radioactive Substances Exemption (Scotland) Order 2011.

If “exempt” radioactive substances are to remain on the premises, such items should be identified along with the relevant exemption provisions which apply to them. These records may be included in the revocation application to SEPA.

Appendix - What should be included in a contamination monitoring protocol?

What is to be monitored?

Identify all areas where radioactive substances have been stored, used and disposed of. This may involve areas of the facility that have not been used for radioactive substances for some time, but for which there are no records to demonstrate that they have been appropriately decommissioned.

Within identified work areas all furniture, fittings, equipment and containers associated with the storage use and disposal of radioactive substances must be appropriately monitored. The protocol should consider the possibility that radioactive contamination has entered the fabric of the facility (walls, floors or ceilings), drainage pipework from designated sink to the connection with the sewer and fume cupboard extract systems and propose appropriate monitoring strategies.

It may be appropriate to use recorded routine or previous contaminations surveys, such as those required by the Authorisation, to eliminate an area from the need for monitoring. If this is proposed, the justification must be clearly documented and any limitations to that monitoring identified.

What radionuclides are being monitored for?

Specify the different radionuclides that have been used in the different areas and the uses to which they have been put. It should be borne in mind that the list of potential radionuclides may include those which have not been used for some time but which have relatively long half-lives (e.g. H-3, C-14). This will inform what the appropriate monitoring methods are.

It is appropriate to consider radioactive decay, particularly in relation to short-lived radionuclides (e.g. S-35, P-32).

What equipment is being used?

Specify the monitoring methods to be used, and how measurements from the chosen instrument(s) relate to the relevant clearance criteria. Depending on the radionuclides used, it may be necessary to use swabs as well as direct measurement with appropriate contamination monitors.

Who will carry out the monitoring?

SEPA expects that monitoring will be carried out by a suitably qualified and experienced person. This is not necessarily the Radioactive Waste Adviser. Who will carry out the monitoring should be specified in the monitoring protocol.

Actions to be taken if contamination is found

The protocol should indicate what actions are to be taken should contamination be found. For example, suggest suitable decontamination options, seek further advice from the Radioactive Waste Adviser or SEPA.

Recording of results

Details of how all monitoring results will be recorded and the location where the results and any associated reports will be stored.