



Guidance on decommissioning of non-nuclear facilities for radioactive substances activities

August 2022

Version 4.0

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We call this **One Planet Prosperity**

Disclaimer: This guidance is provided to assist you in fulfilling your statutory duties, however, it is your responsibility to ensure compliance with your permit, registration, notification or any general binding rules set out in EASR, as well as any other legal obligations you have.

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1. Contents

1. Contents.....	3
2. Scope.....	4
3. Purpose of the guidance	4
4. Decommissioning Plan	5
5. Return to a satisfactory state.....	6
6. Cleaning-up and monitoring as soon as is reasonably practicable	10
7. Engage early with SEPA and develop and maintain an open and transparent dialogue with stakeholders.....	10
Appendix 1 - What you should include in a contamination monitoring protocol.....	11
Appendix 2 - Additional guidance for managing radioactive substances activities during offshore decommissioning	13

2. Scope

This guidance applies to all authorised places¹ that are not nuclear sites as defined in paragraph 4, Schedule 8 of the Environmental Authorisations (Scotland) Regulations (EASR) 2018. It is relevant throughout the lifetime of your authorised place and is particularly relevant when you are decommissioning with a view to surrendering or partially surrendering your permit or registration. It outlines the actions that you need to take so that the environment affected by the radioactive substances activity is restored to a satisfactory state as required by EASR.

3. Purpose of the guidance

The SEPA guidance document Principles on Surrendering Permits and Registrations under the Environmental Authorisations (Scotland) Regulations 2018² sets out five Principles and three related Expectations. These expectations are that you will:

- return your authorised place and the environment affected by the radioactive substances activity to a satisfactory state;
- do so as soon as is reasonably practicable; and
- engage early with us and develop and maintain an open and transparent dialogue with stakeholders.

This guidance provides further information on how you can meet these expectations when decommissioning your non-nuclear facility.

¹ Except for disposal facilities permitted in accordance with Near-surface Disposal Facilities on Land for Solid Radioactive Wastes: Guidance on Requirements for Authorisation - February 2009

² Principles on Surrendering Permits and Registrations under the Environmental Authorisations (Scotland) Regulations 2018

4. Decommissioning Plan

You must keep and maintain a waste management plan, including a decommissioning plan, as required by EASR Standard Condition B.8.1. Your decommissioning plan should be proportionate to the complexity of your facility and the radioactive substances activity carried on there.

Your plan should include:

- A description of your facility, its operational history and identification of areas and equipment where radioactive substances are or may be present. For example, where sources are held, you should identify areas which may be potentially contaminated by leaks or spills;
- An outline contamination monitoring protocol (this is not usually required for sealed source permits and registrations, provided that your leak testing demonstrates the integrity of any source);
- A description of how you will decommission your facility, including how you will clean up any known radioactive contamination and manage radioactive material and waste;
- The anticipated destinations (next user or disposal route) for all radioactive material and waste on the authorised place.

You must develop an outline of your decommissioning plan before you start the radioactive substances activity and you must regularly review and maintain your decommissioning plan throughout the operation of your facility. Preparing and reviewing your plan will allow you to identify early any issues that may arise. This will help minimise uncertainties at final decommissioning and the need for a lengthy and expensive monitoring plan.

For sealed sources, we envisage that you will need a relatively simple decommissioning plan outlining plans for transfer or disposal of the sources when you no longer need them. For permits involving High Activity Sealed Source (HASS), we expect you to regularly review your financial provision to ensure that it remains adequate for transfer or disposal of any HASS that you no longer have a need for.

5. Return to a satisfactory state

5.1 A Satisfactory State

EASR schedule 1 paragraph 14 (1) (b) (iii) requires the authorised person to restore the environment affected by the activity to a satisfactory state prior to surrender. EASR schedule 1 paragraph 17 provides the factors we must have regard to in determining whether the environment affected by an activity has been restored to a satisfactory state. The high-level principles outlined in our guidance² must be met such that following surrender or partial surrender, you will no longer require a permit or registration for that radioactive substances activity or facility. In certain situations, surrender may be contingent on conditions we apply in a surrender notice.

5.2 Achieving a satisfactory state

You are required to demonstrate that you have restored the environment affected by the radioactive substances activity to a satisfactory state before we will grant surrender of the permit or registration. We have set out what we consider is a satisfactory state for the majority of non-nuclear facilities.

The conditions for achieving a satisfactory state are:

- The whole-body dose to any member of the public, including a future user on the authorised place will be 10 μSv per year or less from any radioactive contamination (or 300 μSv per year or less from NORM contamination³);
- No radioactive substances that require a permit or registration to remain on your authorised place;
- No radioactive substances or contamination will be left on your authorised place that is likely to result in radioactive waste being generated in the future that will require a permit or registration to be managed; and
- There are no radioactive trefoils, markings or labelling remaining on your authorised place.

³ Strategy for the management of Naturally Occurring Radioactive Material (NORM) waste in the United Kingdom

5.3 Removal of radioactive substances

Surrender of your permit or registration does not prevent you from continuing to manage radioactive substances at your facility under general binding rules (GBR). If you surrender a permit or registration and you intend to manage radioactive substances under GBRs you should include this information in your surrender application. You may have to notify us for some radioactive substances activities⁴. The remainder of this guidance is for radioactive substances managed under permit or registration.

You must remove all radioactive substances you manage on your authorised place and you must appropriately document and record their removal. You must transfer all radioactive substances to a person legally entitled to manage them or you must dispose of them in accordance with your permit or registration. If you transfer radioactive substances to another person we expect you to obtain an acknowledgement of receipt of the radioactive substances from that person and you must demonstrate to us that the radioactive substances have been transferred. Where the transfer involves HASS, a HASS Record must be submitted to us.

5.4 Remediation of radioactive contamination

We expect you to use best practicable means (BPM) to remediate any radioactive contamination in accordance with EASR Standard Condition B.5.1 and B.5.2 to a level that is indistinguishable from background radioactivity. If you cannot achieve this, you should remediate the contamination to ensure that it cannot give rise to a whole-body dose exceeding 10 μSv per year (or 300 μSv per year from NORM contamination). This is to avoid having to re-permit a site in future (for example, if waste generated from demolition of a contaminated building could not be disposed of without a permit). In cases where whole body dose limits cannot be met we may consider partial or conditional surrender.

⁴ Environmental Authorisations (Scotland) Regulations 2018 Authorisation guide for radioactive substances activities

Guidance on decommissioning of non-nuclear facilities for radioactive substances activities

You should apply the “out of scope” values specified in Table 2 of Schedule 8 of EASR to demonstrate that these criteria have been met. We will consider surrender applications for a facility where these cannot be met on a case-by-case basis. You should give special attention to surface contamination. Although specific activity may be low, the surface contamination may still give doses exceeding 10 μSv per year (300 μSv per year for NORM contamination). We expect you to remove any “loose” or mobile contamination.

5.5 Monitoring of Radioactive Contamination

Where you have only managed sealed sources, appropriate leak testing of the sources will usually be sufficient to demonstrate that no contamination is present.

Where you have managed unsealed sources or radioactive waste, or a sealed source has failed its leak test, we expect you to use BPM to monitor the facility in order to demonstrate contamination is not present. If you find contamination you must remediate it using BPM.

We expect you to produce a written contamination monitoring protocol before the monitoring is carried out. Your protocol should result in a consistent approach to monitoring and establish appropriate clearance criteria, based on the contamination present and the monitoring approach used. Further information is given in Appendix 1.

5.6 Removal of Radioactive Signage

You must remove all radioactive signage and labelling following removal of radioactive substances. You must dispose of all labelling and signage in an appropriate and responsible manner such that it cannot be interpreted as representing the presence of radioactivity.

5.7 Demonstrating return to a satisfactory state

You must keep records for the purpose of demonstrating that all radioactive substances and any contamination has been removed. You must make the records available for inspection or submit them as part of your surrender application. We may carry out an inspection to confirm that a satisfactory state has been achieved.

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

Standard condition B.5 requires you to monitor and remediate any contamination as soon as reasonably practicable. We strongly recommend the progressive decommissioning of areas that you stop using for radioactive substances activities so that you can make best use of the knowledge of the radioactive substances activity in developing your decommissioning plan.

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

7.0 Engagement with SEPA

You should engage with us early to ensure that you understand the regulatory expectations and avoid any unexpected requirements being imposed on you at a late stage. It is never too early for you to engage with us regarding the details of your decommissioning plan.

7.1 Engagement with other stakeholders

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

Appendix 1 - What you should include in a contamination monitoring protocol

What you should monitor

You should identify and monitor all areas where radioactive substances have been managed. 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.

You must appropriately monitor all fittings, equipment and containers associated with the management of radioactive substances. You should consider the possibility that radioactive contamination has entered the fabric of the facility (walls, floors or ceilings), drainage pipework or extract systems, and propose appropriate monitoring strategies in your protocol.

You may find it is appropriate to use recorded routine or previous contaminations surveys, such as those required by the permit or registration, to eliminate an area from the need for monitoring. If you propose this, you must clearly document your justification and identify any limitations to the monitoring.

Radionuclides

You should specify the different radionuclides that have been managed on your authorised place. You should be mindful that the list of potential radionuclides may include those which have not been managed for some time, but which have relatively long half-lives (e.g. H-3, C-14).

Where short-lived radionuclides have been managed, you may find it appropriate to consider radioactive decay as a means of decontamination and minimising waste produced during decommissioning.

Monitoring methods

You must specify the monitoring methods you are using, and how measurements from the chosen instrument(s) relate to the relevant clearance criteria. Depending on the

radionuclides used, you may find it necessary to use swabs as well as direct measurement with appropriate contamination monitors.

Personnel

You must ensure that monitoring will be carried out by suitably qualified and experienced personnel. The complexity of the decommissioning project will determine the level of qualification and experience required. You should identify the personnel in your monitoring protocol.

Contamination

Your monitoring protocol should indicate what actions you will take if contamination is found. For example, you might suggest suitable decontamination options, add details of contamination found to the inventory of waste arising from the decommissioning project or you may seek further advice from your Radioactive Waste Adviser (RWA).

Records

You must record all monitoring results and the location where you will store the results and any associated documentation.

Appendix 2 - Additional guidance for managing radioactive substances activities during offshore decommissioning

Application of EASR in offshore decommissioning

EASR applies to all in-scope radioactive substances activities on land and up to the limit of territorial seas in Scotland (12 nautical miles from shore). Between the limit of territorial seas and the extent of Scottish waters, EASR only applies to “installations”. We have produced a regulatory position statement on what constitutes an offshore installation in respect of EASR⁵. As decommissioning progresses, offshore infrastructure may fall in or out of the scope of EASR. It is your responsibility to be aware whether an authorisation is necessary for any radioactive substances activity carried on during decommissioning. You may wish to consult with your RWA to plan authorisation requirements as decommissioning progresses.

We expect you to have a protocol for managing radioactive waste or material on subsea infrastructure not covered by an authorisation during its operational life, including how you will identify and manage NORM contaminated items or waste before it is returned to shore.

Managing NORM

NORM in EASR

NORM industrial activities are listed in EASR schedule 8 part 1 paragraph 6. Waste arising from NORM industrial activities is in scope of EASR if the activity/activity concentration exceeds the limits set out in EASR schedule 8 part 6 table 1. The limits are set in legislation to ensure doses to a member of the public from NORM industrial activities are kept below 300 μ Sv per year.

Monitoring for NORM

We expect you to continue monitoring for the presence of NORM throughout the decommissioning process regardless of whether NORM has been encountered during the operational phase (see Appendix 1). It is your responsibility to ensure an appropriate

⁵ Regulatory Position Statement on the scope of SEPA's regulation of radioactive substances in the offshore area. December 2020 RS-POL-008

monitoring strategy is in place, and you should consult your RWA to ensure your proposed monitoring strategy is BPM.

Provision of information

When you transfer your installation, part of your installation, contaminated items or waste arising from decommissioning, for reuse, cleaning and/or disposal, you must make an estimate of NORM present prior to transfer. You must use BPM to make this estimate. You must ensure that the person receiving the NORM is legally entitled to manage it. We recommend you consult with your RWA on this matter if you have any doubt.

Contaminated Items

NORM contaminated items with activity/activity concentration exceeding the limits set out in EASR schedule 8, part 6, table 1 are in scope of EASR. When you are decommissioning, you should follow the waste hierarchy, as with other waste-producing activities, when managing waste arising from the process. We recommend you clean NORM contaminated items suitable for reuse or repurposing either on site or by transfer to a specialist company before reuse at another location.

You must transfer NORM contaminated items, whether for cleaning or re-use at another location, to a person who is legally entitled to manage them.

Note that Waste Shipment Regulations (WSR) ⁶ may apply if repair or cleaning of the item is carried out overseas prior to reuse. We recommend you contact us to discuss whether this is required for your shipment.

If you have no further use for a NORM contaminated item, you must designate and manage it as radioactive waste.

Transfer of NORM in the UK

Where you are transferring NORM contaminated items or NORM radioactive waste to a person in the UK it must be to a person who is legally entitled to manage it. You must inform us in advance if you intend to transfer NORM radioactive waste to a person to whom you

⁶ Regulation EC No 1013/2006 as amended by the International Waste Shipments (Amendment) (EU Exit) Regulations 2019

have not previously sent radioactive waste, in accordance with your authorisation conditions. You must provide the person receiving the items or waste with a best practical estimate of the NORM inventory, to ensure they are legally entitled to accept it. If the person receiving the NORM radioactive waste will not be undertaking the final disposal of the waste it is good practice for you to confirm the final disposal route for the waste.

Transfer of NORM outwith the UK

There may be circumstances where the BPM for managing NORM contaminated items or NORM radioactive waste is for you to transfer to a person outwith the UK. In order to ship NORM waste outwith the UK, you must have both an EASR authorisation which allows transfer to an overseas facility, and approval under WSR for the shipment. It is your responsibility to make any relevant applications or notifications to ensure you comply with both sets of legislation prior to shipment, and you need to notify or make application through the separate processes for each.

The UK policy^{7,8} requires that transfers of radioactive waste outwith the UK will only be consented to in light of an assessment of all practicable options and will not be permitted except for the recovery of re-useable materials or for treatment that will make its subsequent storage and disposal more manageable. The presumption is that radioactive wastes arising from recovery or treatment processes overseas would be returned to the UK. However, if the competent authority in the country of destination consents to the disposal in that country, and confirms it does not add materially to their waste inventory, then the waste may be disposed of overseas. We have published guidance on shipments of waste which contain NORM.⁹

You should discuss the policy and regulatory requirements associated with such transfers of NORM radioactive waste for both WSR and radioactive substances requirements with your RWA. We recommend early engagement with us if you plan to ship NORM radioactive waste outwith the UK.

⁷ 2007 Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom

⁸ 2021 UK Plan for Shipments of Waste

⁹ Guidance on the Shipment of Wastes which contain Naturally Occurring Radioactive Material (NORM) RS-G-021

Sealed radioactive sources

You may manage sealed radioactive sources on your offshore installation. These include sealed radioactive sources authorised under EASR permit, registration, notification or GBR. You must continue to manage sealed radioactive sources on a decommissioning installation in accordance with EASR authorisation conditions. When you remove sources for decommissioning you must report the transfer of HASS without delay in accordance with your authorisation.

We expect you to retrieve all sealed radioactive sources on your offshore installation during decommissioning and transfer to a person who is legally entitled to manage them. In the event that you cannot retrieve a source you must inform us as soon as possible and we will consider this on a case-by-case basis.

Disposal of smoke detectors is subject to additional guidance¹⁰ to account for the presence of waste electrical and electronic equipment (WEEE). The Transfrontier Shipment of Radioactive Waste and Spent Fuel (EU Exit) Regulations 2019 or WSR may apply to smoke detectors repatriated to the UK following decommissioning overseas. Please contact us to discuss.

Floating Production Units (FPUs)

This term encompasses FPSOs and Floating Production Facilities whether self-powered or transported by other means. These assets can be more flexibly deployed than fixed installations and so there are more options for post-decommissioning FPUs than for fixed assets.

If you move your FPU away from the location at which it is authorised to operate, you must comply with any condition requiring you to inform us of any movement of the FPU.

The authorisation requirements for your FPU moving off station during decommissioning depend on where the FPU will be sent and who will be in control of it once it leaves your authorised place. We have summarised possible scenarios in the flow chart below (Figure

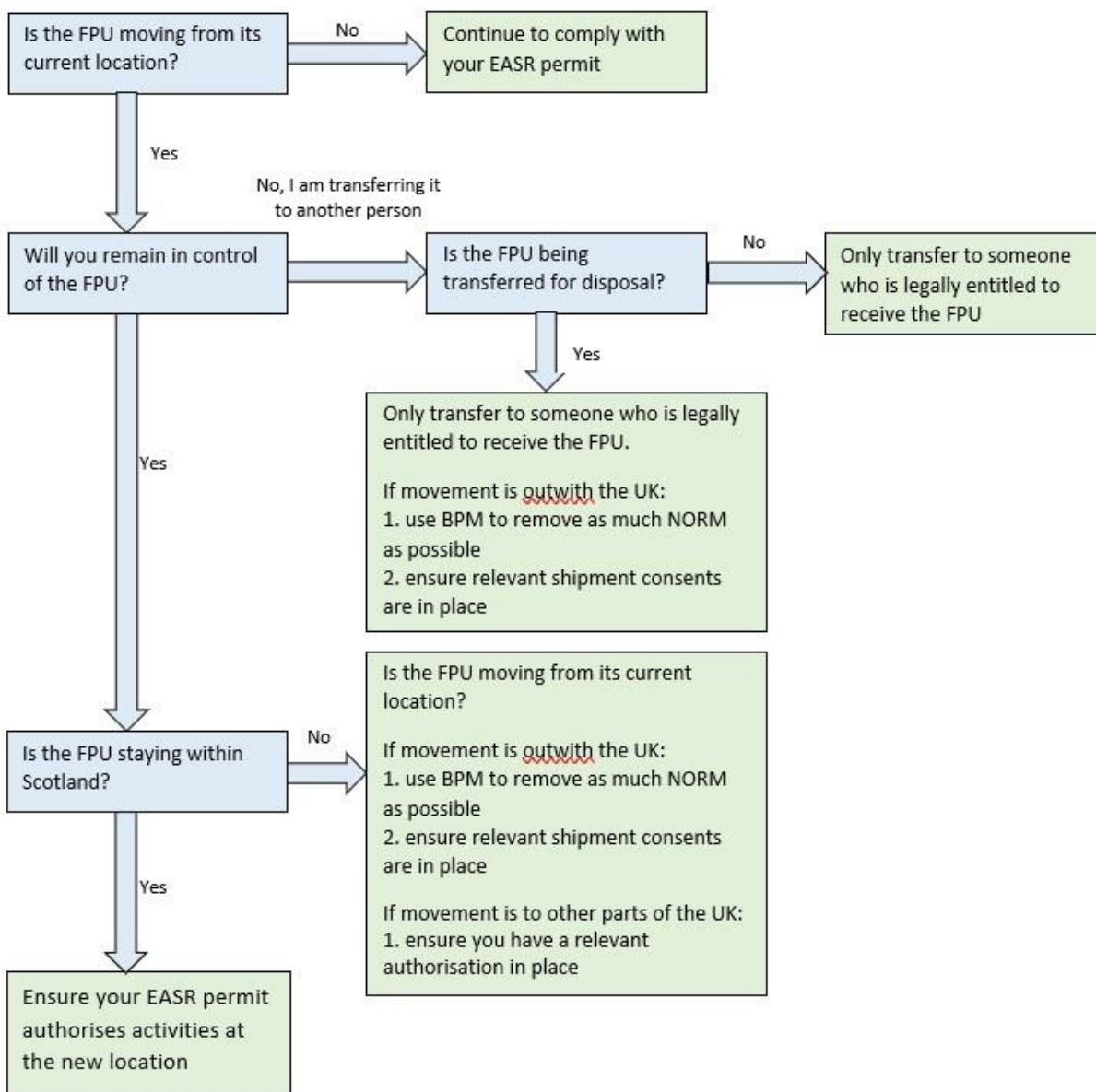
¹⁰ Management of end-of-life smoke detectors RS-G-031

1); however, you should consult your RWA to ensure arrangements are appropriate for your specific scenario.

Where an FPU has been chartered from another company, you must ensure the arrangements for its return take account of radioactive substances on board at the point of transfer. We consider removing NORM prior to transfer to be good practice, however the exact amount of cleaning you are required to do is subject to the commercial agreement between you and the charter company. Irrespective of any agreements within the charter, you must ensure you transfer the FPU to a person legally entitled to manage any radioactive substances remaining on board.

Figure 1

You can use this flowchart as an aid to determine actions required for FPU as they move away from a decommissioning installation. It is not an exhaustive list of options and you should consult your RWA with regards your specific circumstances.



Note: In figure 1 'relevant permit' means "a permit to manage the radioactive material or waste on the FPU in the country of destination" and 'relevant shipment consents' means "Regulation EC No 1013/2006 as amended, The Shipments of Radioactive Substance (EU Exit) Regulations 2019 or The Transfrontier Shipment of Radioactive Waste and Spent Fuel (EU Exit) Regulations 2019".