



How to apply for an environmental permit

Part RSR-B3 – New bespoke radioactive substances activity permit nuclear site – unsealed sources and radioactive waste

Guidance notes

Please read these guidance notes carefully before you fill in the form.

Complete form RSR-B3 if you are applying for a new bespoke permit for a radioactive substances activity involving unsealed sources and/or radioactive waste on a nuclear site. If you want to make on-site disposals of solid waste to land, also fill in form RSR-B5.

For security reasons, applications for radioactive substances activities involving sealed sources must be made separately using form RSR-B2.

Where you see the term ‘document reference’ on the form: give the document reference and send the document with the application form when you’ve completed it. If you are making a joint submission to us and the Office for Nuclear Regulation (ONR), specify which part (for example, chapter or section number) of the document is relevant to each question.

If your application relates to a nuclear power station that has been through the Generic Design Assessment (GDA) process, you must clearly identify:

- any information that is different from that provided for GDA;
- where you have addressed any GDA issues and assessment findings related to the GDA statement of design acceptability.

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1 Other applications

Tell us if you have recently made, or you intend to make, an application for an environmental permit to operate a regulated facility, other than a radioactive substances activity, on the premises. This will enable us to coordinate our determination work.

Tell us if the radioactive substances activity you are applying for has been subject to a Generic Design Assessment (GDA). We expect your application to make reference to the information that was submitted for GDA and inform us of any changes since that assessment was completed. We will take account of the work we carried out in that GDA in the permit determination process, where appropriate. You should identify information in your application that has been subject to GDA and tell us about any Assessment Findings made during the GDA. This will enable us to take account of the outcome of the GDA process in our determination work.

2 About the activities

2a What activities are you applying for?

Tell us which radioactive substances activities you are applying for.

A nuclear site licensee does not need a permit to keep or use radioactive material on the premises, but a tenant on a nuclear licensed site does.

You must apply to receive radioactive waste even if you only intend to do this as a result of your participation in the National Arrangements for Incidents involving Radioactivity (NAIR) or in the Radsafe scheme. We expect that most operators on nuclear sites will need to receive waste at some point and advise you to apply for this activity.

2b Provide a technical description of your activities

Your description should include:

- the overall function of the facility in which you carry out the radioactive substances activities;
- if you have a Statement of Design Acceptability (SoDA) from the Generic Design Assessment process, any changes to your reference design since that was issued; the main plants, systems and processes of your facility;
- identification of the plants, systems and processes which have a bearing on radioactive waste generation, treatment, measurement, assessment and disposal (and, if you are a tenant, those associated with the keeping and use of radioactive material in the form of unsealed sources);
- how radioactive wastes will arise, be managed and disposed of throughout the facility's lifecycle, including:
 - sources of radioactivity and matters which affect wastes arising;
 - gaseous, aqueous and other wastes;
 - discharge points for gaseous wastes and discharge routes (see note 1) for aqueous wastes (including any minor discharge points such as building or tank vents);
 - any significant non-radiological hazards associated with your radioactive wastes; and
 - disposal routes for other wastes (see note 2);
- the purpose of and method for any proposed environmental study (see note 3).

Note 1

We will not permit direct inputs of liquid radioactive waste to groundwater (for example, a discharge to a borehole that extends down to or into the water table). If you are proposing to dispose of aqueous radioactive waste into the ground (for example, a discharge to a soakaway that is not directly connected to the saturated zone):

- you should also tell us about any non-radioactive pollutants in the waste; and
- we strongly advise you to talk to us before completing this form.

Note 2

If these include on-site disposal of solid waste to land, complete form RSR-B5 of the application form. Where you intend to dispose of waste by transfer to another person, you should provide evidence that you have contractual arrangements in place to do this, or, where disposal may not take place for some time, that such contractual arrangements can be put in place.

Note 3

We may permit an environmental study involving the discharge of radioactive material to groundwater subject to strict controls and provided it is for scientific purposes to characterise, protect or remediate bodies of water.

2c Provide a description of your management arrangements

If you are applying for a permit in advance of undertaking any activities involving radioactive substances, your description should be commensurate with the activities you are undertaking at the time of application. You must also describe how your arrangements will develop over time up until the point at which you start using radioactive substances on your premises.

Further guidance on our expectations for management arrangements is given in ‘Radioactive substances regulation: Management arrangements at nuclear sites’. <https://www.gov.uk/government/publications/rsr-management-arrangements-for-nuclear-sites>

For all applicants, you should:

- provide your Management Prospectus (see note 1);
- describe your Radioactive Waste Management Arrangements (see note 2), including your;
 - arrangements for design control and modification;
 - arrangements for optimisation, including how you justify, identify, assure and accept into service the Best Available Techniques (BAT) for processes, systems and equipment associated with the production, discharge or disposal of radioactive waste;
 - organisational capability – you must have an organisation that is capable of meeting the permit requirements, including leadership and governance capabilities;
 - arrangements for categorisation and classification of environmental protection function equipment; and
 - proposals for a suitable Waste Management Plan and Site Wide Environmental Safety Case (see note 3)

Note 1

Further guidance on using an integrated management prospectus is given in ‘Integrated management prospectus for nuclear licensed sites’. <https://www.gov.uk/government/publications/integrated-management-prospectus-for-nuclear-licensed-sites>

Note 2

The meaning of Radioactive Waste Management Arrangements is given in ‘RGN RSR 2: regulation of radioactive substances activities on nuclear licensed sites’. <https://www.gov.uk/government/publications/rgn-rsr-2-regulation-of-radioactive-substances-activities-on-nuclear-licensed-sites>

Note 3

Further guidance on Waste Management Plans and Site Wide Environmental Safety Cases is given in ‘Decommissioning of nuclear sites and release from regulation’. <https://www.gov.uk/government/publications/decommissioning-of-nuclear-sites-and-release-from-regulation>

3 Operating techniques

Describe how you manage the production, discharge and disposal of radioactive waste to protect the environment and to optimise the protection of people.

You should identify and justify the techniques you are proposing as the Best Available Techniques (BAT) for limiting radioactive discharges, emissions and waste.

In identifying techniques, you should address both the technology you use and the way your facility is designed, built, maintained, operated and dismantled.

In justifying techniques as BAT and demonstrating optimisation you will need to address the following, in respect of wastes arising throughout the lifetime of the facility:

- preventing and minimising (in terms of radioactivity) the creation of radioactive waste during operations, decommissioning and dismantling (see note 1);
- minimising (in terms of radioactivity) discharges of gaseous and aqueous radioactive wastes;
- minimising the impact of those discharges on people, and adequately protecting other species;
- minimising (in terms of mass/volume) solid and non-aqueous liquid radioactive wastes;
- how the non-radiological hazards of the radioactive waste (for example, asbestos fibres or chemical toxicity) will be managed;
- selecting optimal disposal routes (taking account of the waste hierarchy and the proximity principle) for those wastes; and
- the suitability for disposal of any wastes you create for which there is no currently available disposal route and how you will manage them in the interim so as to ensure their ultimate disposal whilst minimising environmental impact (see note 2).

If you are proposing to dispose of aqueous radioactive waste into the ground, you will also need to explain how you will take all necessary and reasonable measures to:

- prevent the input of radioactive waste and any other hazardous substances to groundwater; and
- limit the input of non-hazardous pollutants to groundwater to ensure that such inputs don't pollute groundwater (see note 3).

You should describe how you expect to bring the site to a condition that will enable your permit to be surrendered when all planned work with radioactive substances has ceased (see note 4).

Further guidance on optimisation is provided in ‘RSR: Principles of optimisation in the management and disposal of radioactive waste’. <https://www.gov.uk/government/publications/rsr-principles-of-optimisation>

Note 1

If your facility is solely for managing radioactive wastes created elsewhere (for example by treatment or disposal), this requirement does not apply to wastes that you receive from others.

Note 2

We expect you to provide analysis of the disposability of the wastes and of the impact of interim storage as part of your Radioactive Waste Management Case as explained in the Regulators’ Joint Guidance on the Management of Higher Activity Waste. The analyses and their conclusions should demonstrate optimisation over the life-cycle of the waste.

Further guidance can be found in The Management of Higher Activity Waste on Nuclear Licensed Sites. Joint guidance from the Office for Nuclear Regulation, the Environment Agency, the Scottish Environment Protection Agency and Natural Resources Wales to nuclear licensees. February, 2015. <http://www.onr.org.uk/wastemanage/waste-management-joint-guidance.pdf>

Note 3

Guidance on groundwater risk assessments can be found on GOV.UK here <https://www.gov.uk/guidance/groundwater-risk-assessment-for-your-environmental-permit>

Note 4

We expect operators of new nuclear sites to take into account the eventual decommissioning of the site during its design, construction and early operation. You should show that you have considered the standards that will ultimately have to be met for the site to be released from regulation. Guidance is provided in Management of radioactive waste from decommissioning of nuclear sites; Guidance on Requirements for Release from Radioactive Substances Regulation <https://www.gov.uk/government/publications/decommissioning-of-nuclear-sites-and-release-from-regulation>

4 Disposal of radioactive waste

4a Provide quantitative estimates for normal operation of:

- discharges of gaseous and aqueous radioactive wastes;
- arisings of combustible waste and disposals by on-site or off-site incineration; and
- arisings of other radioactive wastes, by category and disposal route (if any).

‘Normal operation’ includes the operational fluctuations, trends and events that are expected to occur over the lifetime of the facility, such as start-up, shutdown, maintenance, etc. It does not include increased discharges arising from other events, inconsistent with the use of BAT, such as accidents, inadequate maintenance, and inadequate operation (including inadequate training and supervision).

For gaseous and aqueous radioactive wastes, you should estimate your monthly discharges:

- on an individual radionuclide basis for significant radionuclides;
- on a group basis (for example, ‘total alpha’ or ‘total beta’) for other radionuclides; and
- via each discharge point and discharge route (as identified in your response to question 2b).

‘Significant’ radionuclides are those which:

- are significant in terms of radiological impact for people or non-human species;
- are significant in terms of the quantity of radioactivity discharged (that is, numerically high);
- have long half-lives, may persist and/or accumulate in the environment, and may contribute significantly to collective dose; and
- are significant indicators of facility performance and process control.

You should select from the radionuclides and groups of radionuclides listed in the RSR Pollution Inventory (PI) as far as practicable.

For combustible and other radioactive wastes, you should estimate the annual arisings and disposals during operation. You should also give an indication of the likely arisings during decommissioning. You should identify wastes in terms of their category (HLW, ILW, LLW), physico-chemical characteristics and proposed disposal route (if any). Quantification should be in terms of activity of key individual radionuclides and overall groupings of radionuclides (for example, total alpha), together with mass and/or volume.

Where your radioactive wastes contain significant non-radiological hazards (for example, asbestos fibres or chemical toxicity) you should describe what these are and quantify the non-radiological content of the radioactive waste as appropriate. This is relevant even if the waste is only being disposed of by transfer to another site.

Your estimates of discharges and disposals should clearly show the contribution of each constituent aspect of normal operations, including:

- routine operation (that is, typically, the design basis or ‘flowsheet design’ and the minimum level of disposals);
- start-up and shutdown;

- maintenance and testing; and
- infrequent but necessary aspects of operation, for example, plant wash-out; and the foreseeable, undesired deviations from planned operation (based on a fault analysis) consistent with the use of BAT, for example, occasional fuel pin failures in a reactor.

You should support your estimates with performance data from similar facilities and explain, where relevant, how changes in design or operation from those facilities affect the expected discharges and disposals.

4b Provide your proposed limits for:

- gaseous discharges;
- aqueous discharges; and
- disposal of combustible waste by on-site incineration.

Provide your proposals for annual site limits (on a rolling twelve months basis) for gaseous and aqueous discharges, and monthly limits for disposals by on-site incineration, and tell us how you derived these. They should be consistent with the information you provided in response to question 4a and reflect your likely operations over the next five to ten years.

When assessing your proposals we will take account of:

- Statutory guidance to the Environment Agency concerning the regulation of radioactive discharges into the environment (DECC, 2009)

https://webarchive.nationalarchives.gov.uk/20121217181219/http://www.decc.gov.uk/assets/decc/what%20we%20do/uk%20energy%20supply/energy%20mix/nuclear/radioactivity/dischargesofradioactivity/1_20091202160019_e @@ guidanceearadioactivedischarges.pdf

For each of air and water, you should propose a site limit for each radionuclide or group of radionuclides that:

- is significant in terms of radiological impact on people (that is, the dose to the most exposed group at the proposed limit exceeds 1 µSv per year (see note 1)); or
- is significant in terms of radiological impact on non-human species (this only needs to be considered where the impact on reference organisms from the discharges of all radionuclides/groups at the proposed limits exceeds 40 µGy/hour); or
- is significant in terms of the quantity of radioactivity discharged (that is, the discharge exceeds 1 TBq per year); or
- may contribute significantly to collective dose (this only needs to be considered where the 500-year collective dose from the discharges of all radionuclides at the proposed limits exceeds 1 man-sievert per year); or is constrained under national or international agreements or is of concern internationally.

Note 1

The RSR Pollution Inventory reporting thresholds may be used as an initial screen since these relate to about 1 µSv per year under assumed conditions. This can be refined by the radiological assessments undertaken in relation to question 6.

You may additionally propose ‘campaign’ limits, where appropriate. For example, if your operations (and consequent discharges) are cyclical or on a batch basis, you might want to propose limits for a complete cycle, or for one or more batches.

5 Monitoring

5a Provide a description of the sampling arrangements, techniques and systems for measurement and assessment of discharges and disposals of radioactive waste

Your description should:

- include details of your in-process monitoring arrangements, as well as those for your final discharges and disposals;
- demonstrate your proposals represent the best available techniques for monitoring; and
- confirm the sensitivity is sufficient to:
 - readily demonstrate compliance with the proposed limits; and
 - for nuclear power reactors or reprocessing plants, meet the levels of detection specified in EU Commission Recommendation 2004/2/Euratom

Further guidance on standardised discharge reporting is available on request.

5b Provide a description of your environmental monitoring programme

You should provide your proposed environmental monitoring programme for:

- the operational phase of your facility; and
- establishing a pre-operational baseline (or provide the results of this if already completed)

Your operational programme should take account of the guidance in ‘Environmental radiological monitoring’ at <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment-data/file/296529/geho0811btvy-e-e.pdf>

6 Radiological assessment

6a Provide a prospective dose assessment at the proposed limits for discharges and for any on-site disposal (such as incineration, but not on-site disposal of solid waste to land)

Your dose assessment should include:

- annual dose to most exposed members of the public for aqueous discharges;
- annual dose to most exposed members of the public for gaseous discharges (identifying separately the dose associated with on-site incineration where applicable);
- annual dose to most exposed members of the public through the groundwater pathway, if you are proposing to dispose of aqueous radioactive waste into the ground ;
- annual dose to the most exposed members of the public for all discharges from the facility;
- annual dose from direct radiation to the most exposed member of the public;
- annual dose to the representative person for the facility;
- potential short-term doses, including via the food chain, based on the maximum anticipated short term discharges from the facility in normal operation;
- a comparison of the calculated doses with the relevant dose constraints (taking account of any historical and future discharges from other facilities in the locality where appropriate);
- an assessment of whether the build-up of radionuclides in the local environment of the facility, based on the anticipated lifetime discharges, might have the potential to prejudice legitimate users or uses of the land or sea; and
- collective dose, truncated at 500 years, to the UK, European and world populations.

You should tell us which model(s) you used to calculate these doses and why they are appropriate, and set out all the data and assumptions (with reasoning) that you used as input into the model(s) including:

- radionuclide composition of each discharge;
- chemical form of each radionuclide discharged;
- gaseous discharge points details (including location, heights, effective heights and volumetric flow rates);
- aqueous waste discharge points details;
- proportions of discharges made via each discharge point (including incinerators);
- data used to estimate incinerator discharges (including quantities of waste to be incinerated, expected radionuclide composition and concentrations, retention factors for any abatement provided);
- hydrographic data (mean volumetric flow for inland water courses or volumetric exchange rate for estuaries/coasts);
- location of dose receptor points;
- weather data;
- deposition velocities, washout coefficients and surface roughness factors;
- dose per unit intake factors;
- food consumption rates;
- habits data for representative persons;
- nearest food production location;
- nearest habitation; and
- hydrogeological and soil data, if you are proposing to dispose of radioactive waste into the ground.

Your assessment should take account of the principles and guidance in: ‘Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment’, August 2012, <https://www.gov.uk/government/publications/assessment-of-prospective-public-doses-from-authorised-discharges>

6b Provide a prospective dose assessment for the most exposed members of the public in Member States of the European Union and/or Norway

This question refers to the Transboundary Radioactive Contamination (England) Direction 2020. Only respond to this question if the activity you are applying for meets one of the following criteria:

- Operation of a nuclear reactor as described in paragraph 2(a) of the Direction;
- Operation of a facility to reprocess irradiated nuclear fuel as described in paragraph 2(b) of the Direction;
- Operation of other activities as described in paragraphs 2(c) to 2(i) and 2(k) of the Direction and the dose assessment completed in response to question 6a of this form indicates that:
 - the local representative person would receive a radiation dose of $\geq 10 \mu\text{Sv}$ per year, or
 - there are exceptional pathways of exposure to EU Member States and/or Norway, e.g. involving the export of foodstuffs.

The other activities described are:

- (c) the mining, milling and conversion of uranium and thorium;
- (d) U-235 enrichment of uranium;
- (e) the fabrication of nuclear fuel;
- (f) the storage of irradiated nuclear fuel in dedicated facilities (except storage of irradiated nuclear fuel in casks licensed for transport or storage, on existing nuclear sites);

- (g) the handling and processing of artificial radioactive substances on an industrial scale;
- (h) the predisposal management, including storage, of radioactive waste arising from operations (a) to (g) and (i);
- (i) the dismantling of nuclear reactors(a), mixed-oxide (oxides of uranium and plutonium) fuel fabrication plants and reprocessing plants (except research reactors whose maximum power does not exceed 50 MW thermal load); or
- (k) the industrial processing of naturally occurring radioactive materials.

Note that applications for new permits for activities specified in paragraph 2(j) of the Direction, “emplacement of radioactive waste above or under the ground without the intention of retrieval”, must be made using Form RSR-B5 or RSR-C5.

With reference to activities 2(g), “industrial scale” means involving quantities of radioactive substances at or above the levels contained in Schedule 1 to the Radiation (Emergency Preparedness and Public Information) Regulations 2019. Where more than one radionuclide is involved, a sum of fractions approach should be taken to determine applicability.

With reference to activity 2(k), “industrial processing”, means involving quantities of radioactive substances at or above the levels contained in Schedule 1 to the Radiation (Emergency Preparedness and Public Information) Regulations 2019. Where more than one radionuclide is involved, a sum of fractions approach should be taken to determine applicability.

Do not respond to this question if your application is for a military site or an activity that uses radioactive substances for military purposes.

If required, your assessment should include:

Airborne effluents

Models, including where appropriate generic models, and parameter values used to calculate the consequences of the releases in the vicinity of the plant and for other affected Member States and/or Norway:

- atmospheric dispersion of the effluents;
- ground deposition and re-suspension;
- food chains, inhalation, external exposure etc;
- living habits (diet, exposure time etc.);
- other parameter values used in the calculations.

Evaluation of concentration and exposure levels associated with the envisaged discharge limits:

- annual average concentrations of activity in the atmosphere near the ground and surface contamination levels, for the most exposed areas in the vicinity of the plant and in affected EU Member States and/or Norway;
- for the reference group(s) in the vicinity of the plant and in affected EU Member States and/or Norway, corresponding annual exposure levels: effective dose to adults, children and infants, taking account of all significant exposure pathways.

Liquid effluents

Models, including where appropriate generic models, and parameter values used to calculate the consequences of the releases in the vicinity of the plant and for other affected EU Member States and/or Norway:

- aquatic dispersion of the effluents;
- their transfer by sedimentation and ion exchange;
- food chains, inhalation of sea spray, external exposure etc.;

- living habits (diet, exposure time etc.);
- other parameter values used in the calculations.

Evaluation of concentration and exposure levels associated with the envisaged discharge limits:

- annual average concentrations of activity in surface waters, at the points where such concentrations are highest, in the vicinity of the plant and in affected EU Member States and/or Norway;
- for the reference group(s) in the vicinity of the plant and in affected EU Member States and/or Norway: effective dose to adults, children and infants, taking account of all significant exposure pathways.

6c Provide an assessment of the impact of the radioactive discharges and on-site disposals on non-human species

You should assess the dose-rates to reference organisms that result from your proposed discharges (including any indirect input to groundwater you propose). An appropriate range of reference organisms for freshwater, marine and terrestrial ecosystems is included in the ERICA tool (see below). You should calculate worst-case dose-rates by assuming the presence of the reference organisms for the relevant ecosystem at the position of maximum environmental concentration due to discharges (usually, close to the site boundary for the terrestrial ecosystem, and close to the point of discharge for aquatic ecosystems).

Tell us which model you used to calculate these dose-rates and why it is appropriate, and set out all the data and assumptions (with reasoning) you used as input into the model, where not already covered in question 6a. You should identify the designated wildlife sites (Natura 2000 sites) likely to be impacted by the discharges and explain your selection of the ERICA reference organisms and how they represent species of interest around the site.

You should compare the assessed dose-rates with our guideline value of 40 microGy/hour (the level below which we consider there will be no adverse effect on non-human species).

Note that, the Environment Agency will:

- assess the combined impact of discharges, from your and all other relevant permitted sites, on each potentially affected Natura 2000 site; and
- compare those combined impacts with the 40 microGy/hour guideline value.

An appropriate tool for assessing impacts on non-human species is available on the ERICA website: <http://www.erica-tool.com>. (ERICA was a research project under the EC Euratom 6th Framework programme). Note that the ERICA tools cannot assess dose rates from noble gases and for these substances the Ar-Kr-Xe dose calculator can be downloaded from the Centre for Ecology and Hydrology (CEH) at <https://wiki.ceh.ac.uk>.

6d Provide an assessment of the impact on people and non-human species of the environmental studies

(only answer this question if you are applying for an activity described in Schedule 23, Part 2, paragraph 11(5)(b))

You should provide an additional assessment to that in questions 6a and 6c, which specifically addresses the impact of the proposed release of radioactive material into the environment or into organisms. Tell us about the model(s), data and assumptions you used, as in questions 6a and 6c.

7 Receiving radioactive waste

Provide details of the origin, nature and quantity of each waste stream to be accepted onto the premises, and how you will manage and dispose of it.

For each waste stream you plan to receive (see note 1), tell us:

- where the waste will come from (you may only be able to do this in general terms, for example, ‘from decommissioning nuclear power stations’);

- its category (LLW, ILW, HLW);
- its physico-chemical properties;
- how much of it (mass or volume and radioactivity content) you will receive and over what period;
- how you will treat or store it; and
- how and when you will dispose of it.

Note 1

Tell us if you may receive waste as a result of your participation in the National Arrangements for Incidents involving Radioactivity or in a Radsafe incident response – no further details are required for such waste.

8 Radioactive material

Only answer this question if you are a tenant applying for an activity described in Schedule 23, Part 2, paragraph 11(2)(a) involving unsealed sources.

Fill in Table 2 with details of the radioactive material that you will keep or use on the premises.

List all radionuclides you will have on the premises in the form of unsealed sources, in order, starting with the highest activity material and finishing with the lowest activity material.

List individually:

- a single or a few radionuclides which dominate your usage; and
- all alpha emitting radionuclides.

Where you use small amounts (for example, a few megabecquerels) of similar radionuclides you may list them as a group. This will give you flexibility. We will only include the following unsealed source groups in permits:

| | |
|---|---|
| Total alpha-emitting radionuclides | Carbon-14, tritium |
| Total beta/gamma-emitting radionuclides | Carbon-14, tritium, iodine-125, phosphorus-32, sulphur-35 |
| Total positron-emitting radionuclides | Thorium natural |
| Total radionuclides | Uranium-depleted or natural |
| Iodine radionuclides | Uranium-enriched |

‘Total’ means not specified separately.

‘Beta/gamma’ includes electron capture and auger emission radionuclides.

For example, if you intend to use up to 10 MBq sulphur-35, 5 MBq iodine-125 and 15 MBq phosphorus-32, you can list them as carbon-14, tritium, iodine-125, phosphorus-32, sulphur-35 with a maximum activity 30 MBq.

We will not issue permits with groups other than these ones. You do not need to include radionuclides that are only present as a result of radioactive decay of the listed radionuclides.

Tell us the total radioactivity of each specified radionuclide you will hold on the premises at any one time (allowing for all reasonably foreseeable requirements). Use units of becquerels with an appropriate prefix (kilo, mega, giga and so on). For natural thorium and natural and depleted uranium, give their mass in kilograms.

Details of the materials and how you intend to use them

It is important that you tell us why you want to hold radioactive materials, and how you will use them. Include radioactive materials that you reasonably expect to hold at any one time over the next 1–2 years. You need not include materials you are confident you can hold under the terms of an exemption.

If you hold a mixture of high-and low-activity sources

If you hold low-activity materials which are exempt under EPR, you do not need to include them in your application to permit other sources.

9 Mobile radioactive apparatus for environmental studies

Only answer this question if you are applying for an activity described in Schedule 23, Part 2, paragraph 11(5)(b).

Fill in Table 3 with details of the radioactive material that you will use for environmental studies.

List all radionuclides in the form of mobile sources you intend to use in the study, in order, starting with the highest activity material and finishing with the lowest activity material.

You do not need to include radionuclides that are only present as a result of radioactive decay of the listed radionuclides. For each specified radionuclide, tell us the:

- total radioactivity to be used for the environmental study (allowing for all reasonably foreseeable requirements); and
- maximum radioactivity to be released to the environment in a day.

Use units of becquerels with an appropriate prefix (kilo, mega, giga and so on).

If the environmental study is to take place away from the nuclear site, you should also fill in section 9 of form B4 and include it with your application. Form B4 is available here <https://www.gov.uk/government/publications/part-rsr-b4-apply-for-an-open-sources-and-waste-from-open-sources-rsr-permit>