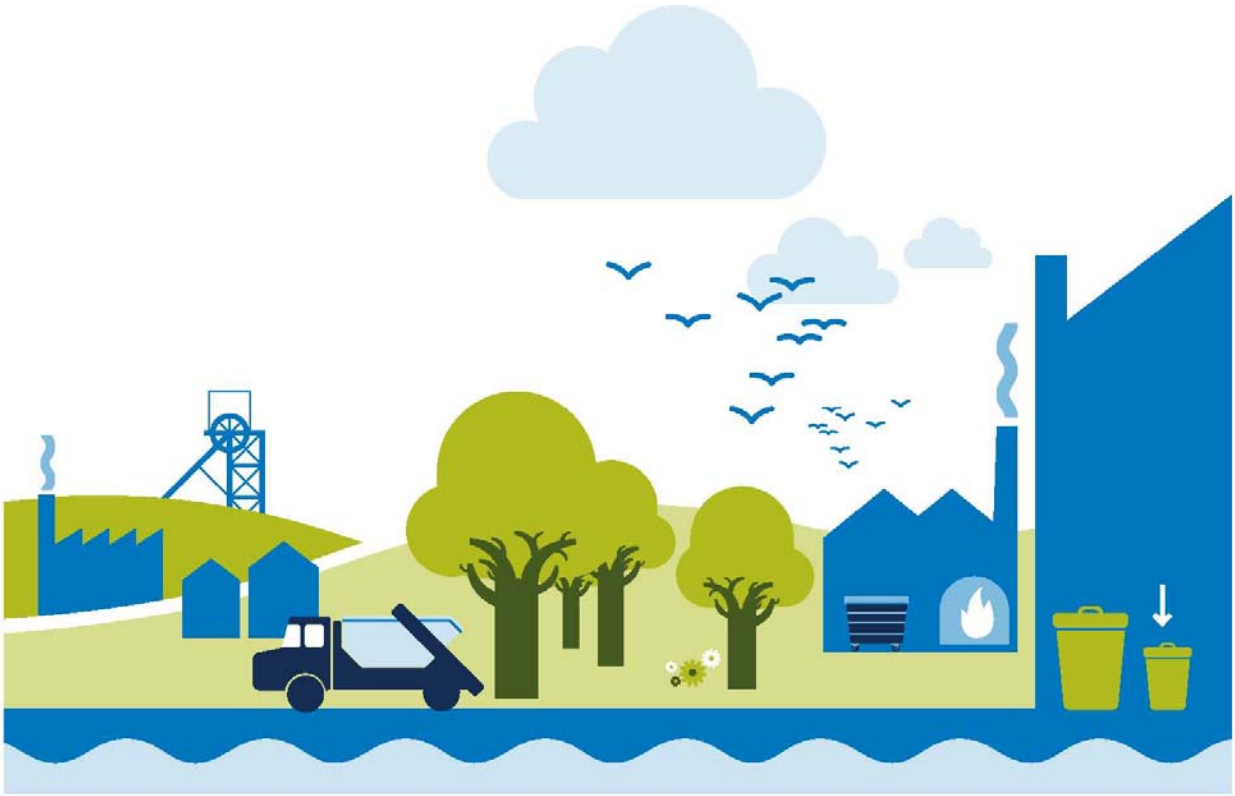
# Horizontal guidance H1 - Annex J 2

# Guidance on the discharge of small quantities of substances for scientific purposes

## Additional guidance for groundwater tracer tests and substances used as part of specified remediation schemes



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# Contents

# Discharge of small quantities of substances for scientific purposes

## Purpose of this guidance

It is now a legal requirement that a groundwater tracer test or a discharge of substances as part of a specified remediation scheme be controlled under Environmental Permitting (England and Wales) Regulations (EPR). [1]

This document provides guidance on the legislative requirements for the discharge of small quantities of substances into groundwater for scientific purposes as part of a groundwater tracer test or specified groundwater remediation scheme.

Such discharges can either be:

- excluded from control;
- registered as exempt; or
- permitted under EPR.

The intention of this guidance document is to help in determining what degree of control is appropriate for such activities to ensure that the use of groundwater tracer tests or substances used as part of a specified remediation scheme are compliant with EPR.

## Who is this guidance for?

This document is applicable to environmental consultants, research bodies and contractors designing and carrying out groundwater tracer tests and for developers, consultants, contractors and others involved in designing and operating groundwater remediation schemes.

[1] EPR is referred to directly as EPR (2010) where a quotation is used. Otherwise EPR would cover any future amendments.

# Part 1 Scope of registration

## 1.0 Introduction

This section provides the regulatory background for registration and a description of the activities described as 'discharges of small quantities of a range of substances into groundwater for scientific purposes' principally groundwater tracer tests and groundwater remediation works.

## 1.1 Regulatory position

Under Schedule 3, Part 3 of EPR (2010) you can register the following groundwater activities as exempt provided certain conditions are met:

- *the discharge of small quantities of substances for scientific purposes as part of a groundwater tracer test; and*
- *the discharge of small quantities of substances for scientific purposes as part of a specified groundwater remediation scheme.*

As defined under Schedule 3, Part 3, Paragraph 1 of EPR (2010):

- ***small quantities** are interpreted in the same sense as in Article 11(3) (j) of the Water Framework Directive[2].*
- *a **groundwater tracer test** means a study of (a) the behaviour or movement of water, or (b) a contaminant below ground, which involves the addition to groundwater of a distinguishable material which has nearly identical properties to the contaminant or water being studied.*
- *a **specified groundwater remediation** scheme means a remediation scheme which involves the addition of a substance or preparation to groundwater which enhances the rate of remediation of groundwater contaminants.*

Part 3 of Schedule 3 of EPR (2010) sets out the relevant conditions that must be met before the discharge can be registered as exempt. The requirements are described in more detail in Part 2 of this document.

Under Paragraph 3 of Schedule 22 of EPR (2010) there may be some cases where you would not need to register an exemption if we determine that the discharge poses such a low risk that it may be excluded from the registration process (see Section 1.3).

Alternatively you may not need to register if your proposed discharge forms part of another environmental permit and meets the conditions for registration (Sections 2.1 and 2.2). There is currently no requirement for registration or permitting if the discharge uses cultured micro-organisms or bacteria (Section 2.1.2).

[2] "discharges of small quantities of substances for scientific purposes for characterisation, protection or remediation of water bodies limited to the amount strictly necessary for the purposes concerned"

## 1.2 Requirements for registration

You may register the discharge of small quantities of substances to groundwater as part of a groundwater tracer test or specified groundwater remediation scheme if it meets the following requirements:

- it falls within the description of a specified groundwater remediation scheme or a groundwater tracer test;
- it meets specific qualifying conditions;
- the activity is registered; and
- it does not cause pollution of groundwater.

If the discharge does not meet the requirements for registration and it is not excluded from the regulations, you will need to apply for and obtain a bespoke environmental permit. In this case, you should follow our H1 Environmental Risk Assessment guidance Annex (j) groundwater (Environment Agency, 2011).

## 1.3 Exclusions

Under paragraph 3(3)(b) of Schedule 22 to EPR (2010), we may determine that the discharge, or the activity that may lead to a discharge, is not a groundwater activity if the input of the pollutant:

- *'Is or would be of a quantity and concentration so small as to obviate any present or future danger of deterioration in the quality of the receiving groundwater.'*

Such discharges are commonly referred to as being 'de minimis'. For this to apply it must be self evident, without the need for investigations other than those necessary to characterise the substance(s) in the discharge, that their input to groundwater will not result in deterioration of groundwater quality.

### 1.3.1 Criteria for generic exclusion

As described above, we can determine that exclusion applies but we will need to determine this on a site specific basis unless the discharge meets the following generic criterion:

- The discharge does not exceed the equivalent of 10 litres of any non-hazardous pollutant at a concentration not greater than 10 times the concentration at which is it suitable for human consumption.

If you can comply with this criterion we do not need to make a further determination and you do not need to register. You are also not required to undertake a water features survey or monitoring (see Part 2). However, we recommend that you do consider undertaking a water features survey and monitoring and keep a written record of the groundwater tracer test or remediation scheme, as you may need to provide evidence that your discharge was eligible for exclusion if pollution of groundwater occurs.

For further information on exclusions please refer to Groundwater Protection: Principles and Practice (GP3) Part 5 *Interpreting groundwater activity exclusions,* Environment Agency, 2012 in preparation).

## 1.4 Radionuclide groundwater tracer tests

Under Schedule 23 of EPR[3] **all** groundwater tracer tests that involve the use of radioactive substances will require a permit under Radioactive Substances Regulation (RSR) legislation.

Under Regulation 17 (4) of EPR:

*If a groundwater activity is carried on as part of a radioactive substances activity—*

*(a) the regulator must authorise the carrying on of the groundwater activity under the same environmental permit that authorises the carrying on of the radioactive substances activity; and*

*(b) a separate permit must not be granted in relation to the groundwater activity.*

Such as that the where a groundwater activity is carried out as part of an RSR activity (as would be the case of a radioactive tracer test to groundwater) the groundwater activity must be authorised under the same permit that authorises the carrying out of the RSR activity. So effectively, the groundwater permitting provisions would be subsumed into the RSR permit.

This means that you cannot apply for a standalone groundwater permit and you cannot register a radioactive groundwater tracer test as an exempt groundwater activity. .

Therefore, a radionuclide groundwater tracer test does not fall within the description of a 'groundwater tracer test' as discussed in this document. You do not need to read this guidance.

If you wish to carry out a groundwater tracer test utilising radionuclides then you should contact our RSR team.

**Note:** If a permit is granted under RSR then you will not need to apply for a groundwater permit or a registered exemption

## 1.5 Hazardous substances

Under EPR, groundwater tracer tests or discharges as part of a specified remediation scheme cannot contain hazardous substances. These discharges require a bespoke environmental permit.

[3] Regulation 5 of the Environmental Permitting (England and Wales) (Amendment) Regulations 2011 No. 2043 does not apply because such a tracer test carried out "in the field" would be regarded as mobile radioactive apparatus and there is no applicable exemption.

# Discharge of small quantities of substances for scientific purposes

Hazardous substances are defined in the WFD as “substances or groups of substances that are toxic, persistent and liable to bio-accumulate, and other substances or groups of substances which give rise to an equivalent level of concern.” All former List I substances are hazardous substances as are radionuclides[4] (see Box A and also Section 1.4)

## Box A Hazardous substances and non-hazardous pollutants

The former Groundwater Directive (GWD, 80/68/EEC) defined two lists of substances that were deemed to pose the greatest risk to groundwater from point sources. These were referred to as List I and List II, with substances on List I being of most concern. The Water Framework Directive (WFD, 2000/60/EC) and its new daughter Groundwater Directive (GWDD, 2006/118/EC) consider a wider range of potential pollutants and refer to them as hazardous substances or non-hazardous pollutants. This terminology is used in EPR and further details are provided below:

**Hazardous substances**

Hazardous substances are defined in the WFD as “substances or groups of substances that are toxic, persistent and liable to bio-accumulate, and other substances or groups of substances which give rise to an equivalent level of concern”

EPR (2010) specifies ‘hazardous substances’ as being toxic, persistent and liable to bioaccumulate. The Environment Agency is required to publish a list of hazardous substances and the Joint Agencies Groundwater Directive Advisory Group (JAGDAG) is the body that confirms these determinations. All former List I substances are now hazardous substances.

**Non-hazardous pollutants**

A non-hazardous pollutant is any substance capable of causing pollution that has not been classified as a hazardous substance. The non-hazardous list of pollutants does not simply replace the old List II substances. For example, chloride is now termed as being non-hazardous whereas before it was not a Listed substance.

## 1.6 Groundwater tracer tests

Groundwater tracer tests normally involve the introduction of a substance into the ground or directly into the saturated zone. Prior to EPR, the applicant would typically or invariably submit an application form that provided details of the proposed test, including tracer (type, quantity, and concentration), date(s) of the test, location and hydrogeological setting and estimates of the tracer concentrations at identified monitoring locations.

[4] See Section 1.4 on radionuclide groundwater tracers

# Discharge of small quantities of substances for scientific purposes

In Part 2 of this guidance, we provide details of the information required to determine whether a proposed groundwater tracer test (the activity) can be registered as exempt from permitting, excluded from registration or would require a bespoke environmental permit.

Groundwater tracer tests can provide information on groundwater movements (velocity, direction and dilution); prove connections between recharge and discharge points; and establish groundwater flow mechanisms. For example, the extent to which movement of water through an aquifer is via fracture or intergranular flow. The studies can also provide data on aquifer properties such as aquifer porosity and dispersivity. Such information can be used for the management of water resources, helping to assess the likely consequences of pollution events and the likely effects of new structures on the flow of groundwater.

## 1.7 Substances used as tracers

An ideal tracer is one that behaves in the same way as the substance being investigated. For example, to determine the flow of groundwater in an aquifer, the tracer should be one that accurately follows the same pathway as the water. It would therefore normally share similar water solubility, density, viscosity and sorption characteristics. Where used for groundwater contamination studies, tracers need to accurately mimic the transport of contaminants posing the greatest risk to groundwater quality as well as being safe to use and easily detected in very small concentrations.

A wide range of materials have been developed for use as groundwater tracers. Examples of these with some of the more common types of tracer are given in Table 1.

The most widely used tracers are synthetic dyes, particularly fluorescent dyes. Whilst these are liable to losses by sorption and photodegradation, they are convenient and economic to use and can be detected at very low concentrations. Selection of an appropriate tracer is important and will depend on the scale of the experiment, its aims, and natural background concentrations of selected tracer, analytical techniques, and interaction with the aquifer, the experimental apparatus and environmental impact. Further examples of tracers commonly used, their key properties and guidance on the choice of tracer and test design can be found in tracer review and research documents:

- *Groundwater tracer tests: a review and guidelines for their use in British Aquifers*. British Geological Survey Report WD/98/19. NERC 1998. (Environment Agency/BGS, 1998).
- *Tracers: Priorities for environmental quality standard development.* Technical Report P44. Joint EA and SNIFFER funded project. Environment Agency, Bristol. (Environment Agency, 2001).
- *Micro-organisms in groundwater: Tracers and troublemakers.* R & D Technical Report P2-290/TR. Environment Agency Bristol, September 2002. (Environment Agency, 2002).
- *Fate and transport of phage and viruses in UK Permo-Triassic sandstone aquifers*. Science Report SC030217/SR. Environment Agency, Bristol. (Environment Agency, 2007).

**Table 1.** Some generic classes of groundwater tracer tests and some of the more common types of tracer used.

| Generic class of tracer | Types of tracer |
|---|---|
| **Fluorescent dyes** | Rhodamine, uranine, photine |
| **Inorganic chemicals** | Chloride, bromide |
| **Biological tracers**[5] | Yeasts, bacteria, spores, bacteriophages, DNA |
| **Others** | Gases, other particulate tracers, temperature, radionuclides |

## 1.8 Types of tracer test

Tracer tests can range from very simple to very complicated and the scale of the tests can range from less than a metre through to hundreds or thousands of metres. Simple tests affecting a limited area of aquifer are likely to be excluded from registration (see Section 1.3.1).

Natural hydrogeological features such as sinkholes, quarry floors, springs and drains can provide access to the groundwater and so can be used for injecting tracers (recharge points) or sampling / monitoring (discharge points). When such features are used, the test is usually investigating flow systems under natural conditions (where there is no artificial control on the flow) and is typically designed to determine flow paths, groundwater travel times, and dilution and dispersion characteristics. In general, this type of test can be classified as large scale, because of the large distances typically between injection and sampling points and the large volume of aquifer involved. These tests are more commonly applied in fractured or fissured media such as limestone, where transport over large distances is possible over a relatively short timescale.

Where boreholes are available or can be installed, a wider range of tracer test methods is available. A selection of such methods is presented below.

### 1.8.1 Single well methods

**Point dilution test:** A tracer is introduced to the borehole without causing any disturbance in natural hydraulic conditions (for example head or density change). The concentration of the tracer is measured over time, which allows an estimate of the water velocity to be made if the porosity of the formation is known or can be estimated. To determine the direction of flow, a multi-directional or orientated sampler is required. This method is most applicable where groundwater flow is horizontal and intergranular – the test is invalid for vertical flow and where the aquifer is fractured, caution is required in the determination of an appropriate porosity value.

[5] Some of these are not formally covered as hazardous substances or non-hazardous pollutants under EPR (2010) and will not require registration or permitting (see Section 2.1.2)

An extension of the test described above can also be used in a single well. The injected tracer is allowed to enter the aquifer, migrating in the natural groundwater flow regime. The decline in concentration over time is monitored. After a period, the borehole is pumped and the tracer drawn back to the injection well, again with the concentration measured. The concentration/time profile (breakthrough curve) obtained can be used to determine linear groundwater velocity, effective porosity and dispersion characteristics if the hydraulic conductivity of the aquifer is known.

### 1.8.2 Multiple well methods

These comprise the use of two or more boreholes for groundwater tracing experiments. The techniques typically consist of injecting a tracer instantaneously or continuously into one or more boreholes and monitoring the tracer arrival and concentration at one or more additional boreholes down-gradient. A natural or artificially induced hydraulic gradient can be used. Natural gradient tests require boreholes to be positioned along the line of groundwater flow or within the zone of dispersion. They therefore require a good understanding of the natural flow regime. Parameters that can be determined from these tests include travel time, linear groundwater velocity and longitudinal and lateral dispersivity. Times for the tests can vary significantly – in fractured media travel times can be rapid, whilst in porous media travel times may be very long with dilution through dispersion large.

An artificial hydraulic gradient can be imposed to improve the control over tracer movement. This is achieved by pumping into or out of the aquifer. The simplest version of this test is to utilise two wells, a pumped well and an observation/injection borehole penetrating the same formation. The pumped well produces radial convergent flow over an area of influence which includes the injection well. Each well is monitored, the pumped well for the arrival of the tracer, and the injection well for its disappearance. Analysis of the tracer breakthrough data can be used to determine parameters including longitudinal dispersivity, effective porosity and hydraulic conductivity.

An alternative to the above is to impose diverging radial flow by injecting water into a central borehole and establishing a radially divergent flow field. The central borehole is used for tracer injection, as a pulse or as a continuous flow, and the tracer decline in the injection well and the tracer breakthrough in the monitoring well, are measured. More than one observation borehole is recommended in this case since in heterogeneous formations, flow paths may not intersect the sampling point(s).

## 1.9 Groundwater remediation schemes

Groundwater remediation schemes would normally be associated with works related to:

- Voluntary remediation schemes.
- Redevelopment of contaminated sites through the Planning and Development Control regime.
- Section 161A of the Water Resources Act 1991 (WRA 1991) and the Anti-pollution Works Regulations 1999 (Works Notices).

- Part 2A of the Environmental Protection Act 1990 (EPA 1990) – the Contaminated Land regime.

The above would normally relate to historical contamination and spill incidents.
We may require groundwater remediation schemes via enforcement notices under EPR. The Environmental Liability Directive (ELD, 2009) may also instigate action for non-historical incidents. We would expect to have involvement through these regimes.

A range of methods is available for the remediation of contaminated soils and groundwater. However, in relation to this guidance, schemes that incorporate injection systems that utilise nutrients, chemical oxidants, oxygen, etc. are of most relevance.

Several other processes require the extraction of contaminated groundwater and soil vapours, rather than the injection of additives to promote in situ treatment.

Note that the registration process would only cover the introduction of the remedial agent to groundwater. The recirculation of abstracted groundwater and the reinjection of substances would require a bespoke environmental permit.

In relation to this guidance, injection systems are relevant since these additives, whilst designed to modify and improve the quality of the groundwater, have the potential to contaminate water in their own right if not used appropriately.

The principal injection systems used in groundwater remediation schemes typically require the addition of chemical compounds into groundwater. The main processes used are:

- **Chemical oxidation:** injection of reactive chemical oxidants into groundwater and / or soil to destroy contaminants; uses products designed to treat organic contaminants, including high concentration source areas in the saturated and unsaturated zones. In situ oxidation approach can be used on both soils and groundwater.
- **Enhanced aerobic bioremediation:** bioremediation uses naturally occurring and / or cultured micro-organisms (see Section 2.1.2) to degrade and remove contaminants in groundwater. Controlled release peroxygen products are designed to deliver oxygen to the subsurface, which can stimulate the aerobic degradation of petroleum hydrocarbons and other aerobically degradable compounds.
- **Enhanced anaerobic bioremediation:** products designed to provide controlled release of hydrogen in the subsurface, which may stimulate the enhanced degradation of chlorinated solvent contaminants in groundwater, including perchloroethene (PCE), trichloroethene (TCE), trichloroethane (TCA) and their derivatives. Schemes can be designed to produce hydrogen and in situ treatment in groundwater for periods of 1 – 5 years.
- **Metals treatment:** dissolved metal contaminants can be remediated by in situ immobilisation (precipitation and / or sorption); proprietary compounds are released in a controlled manner and react to immobilise metal contaminants.

Other additives[6], such as nutrients and food sources, may also be used in remediation schemes. Biochemical reactions play an important role in many in-situ remediation

[6] See Section 2.1.2

technologies. Commonly micro-organisms break down carbon-based contaminants (for example, hydrocarbons) into smaller compounds, transforming the contaminants through metabolic or enzymatic processes. Bacteria and archaea can metabolise hydrocarbons and other contaminants, converting them to less toxic products. Specific organisms are injected into the groundwater and, in some cases; special nutrients are injected with the microbes.

Potential effects that may need to be considered include:

- changes in the local chemical environment;
- residual substances in groundwater if these are not consumed in the degradation process;
- the release of more harmful breakdown products may potentially cause a secondary risk.

It is important that the monitoring plan should consider these possibilities.

# Part 2 Procedures for Registration

## 2.0 Introduction

This section outlines the information that you will need to satisfy in order to register the proposed discharge; to assess as to whether or not the discharge can be excluded; or whether a bespoke environmental permit is required.

There are certain cases where we feel registration will not be required as this is covered in detail through other EPR permitting regimes such as radioactive substances or bespoke permits. There is currently no legal requirement to control microbes and bacteria as these are not classified as substances under EPR (see Section 2.1.2). There are also cases where we cannot allow registration. For example, the recirculation of abstracted groundwater and the reinjection of remedial substances would require a bespoke environmental permit.

We must be satisfied that the proposed discharge is for the sole scientific purpose of either:

- investigating the movement of groundwater and/or transport of pollutants in groundwater (a groundwater tracer test); or
- promoting in situ beneficial chemical or biological treatment as part of a specified groundwater remedial scheme (groundwater remediation scheme).

In addition, the discharge must not cause pollution of groundwater.

## 2.1 Do you need to register?

### 2.1.1 Standard rules permit SR2008No27 – groundwater remediation

For discharge of small quantities of substances to ground as part of a specified groundwater remediation scheme, if you have standard rules permit SR2008No27 (mobile plant for the treatment of soils and contaminated material, substances or products) and the accompanying Deployment Form, there is no need to register.

You must however, make sure that you also meet the criteria as given in Section 2.2 and that these criteria are covered in sufficient detail on your submitted deployment form.

For groundwater remediation projects, established contractors can typically register their techniques under our standard rules permit (SR2008No27 - mobile plant for the treatment of soils and contaminated material, substances or products).[7] Once a scheme has been designed and prior to using your standard rules permit at a site, a deployment form must also be completed and submitted to us, with any necessary additional information. The deployment form requires site specific information to be provided, including site location details, proposed treatment technology, proposed siting of plant and equipment, a

[7] Other authorisations may be required, subject to the detail of the scheme

conceptual site model, proposed locations of monitoring facilities, potential receptors and details of protected sites within 2 km. The deployment form also contains requirements for risk screening, a site specific risk assessment associated with the remedial action covered by the standard rules permit, identification of control measures to mitigate identified risks, a monitoring plan and the identification of indicator parameters, which can be used to detect pollution or the effectiveness of remedial works.

We need to approve the deployment form before you can proceed with the planned activities. Once agreed, the deployment form becomes a legally enforceable document.

To summarise, if you have applied for and successfully obtained SR2008No27 and the accompanying deployment form and this encompasses and satisfies the conditions in Section 2.2 of this guidance, then you do not need to register the discharge as an exempt groundwater activity.

### 2.1.2 Microbes and bacteria

Cultured micro-organisms and bacteria (yeast, spores, bacteriophages, etc.) used as groundwater tracer tests and as substances for remediation are not formally determined as hazardous substances or non-hazardous pollutants under EPR. Therefore, they are not groundwater activities and cannot be registered as exempt or permitted. However, we recommend that you should follow the principles outlined in this document and consider undertaking a water features survey (Section 2.3.1) and monitoring (Section 2.3.2) and keep a written record of the groundwater tracer test or remediation scheme.

Microbes and bacteria are covered under the Water Resources Act (WRA) 1991. If your discharge causes pollution of groundwater then we can use our powers under Section 161A of the WRA (Anti Pollution Works Notices). This refers to the entry of polluting matter so we do have the power to serve a remediation notice if necessary but no criminal enforcement could be taken.

## 2.2 Conditions for registration

In order to be able to register the groundwater activity as exempt from permitting, you must be able to satisfy the following conditions:

- the proposed activity falls within the description of a groundwater tracer test or a specified groundwater remediation scheme;
- the discharge does not contain any hazardous substances
- the concentration and volume of substances in the discharge are limited to the amount strictly necessary to achieve the objectives of the test or groundwater remediation;
- you have carried out a water features survey to within 1 kilometre of the discharge (see Section 2.3.1) and undertaken a risk assessment that has demonstrated that the discharge will not cause pollution
- you have obtained the prior consent of any individual or organisation (for example, water company) having a right to abstract water in the vicinity of the discharge;

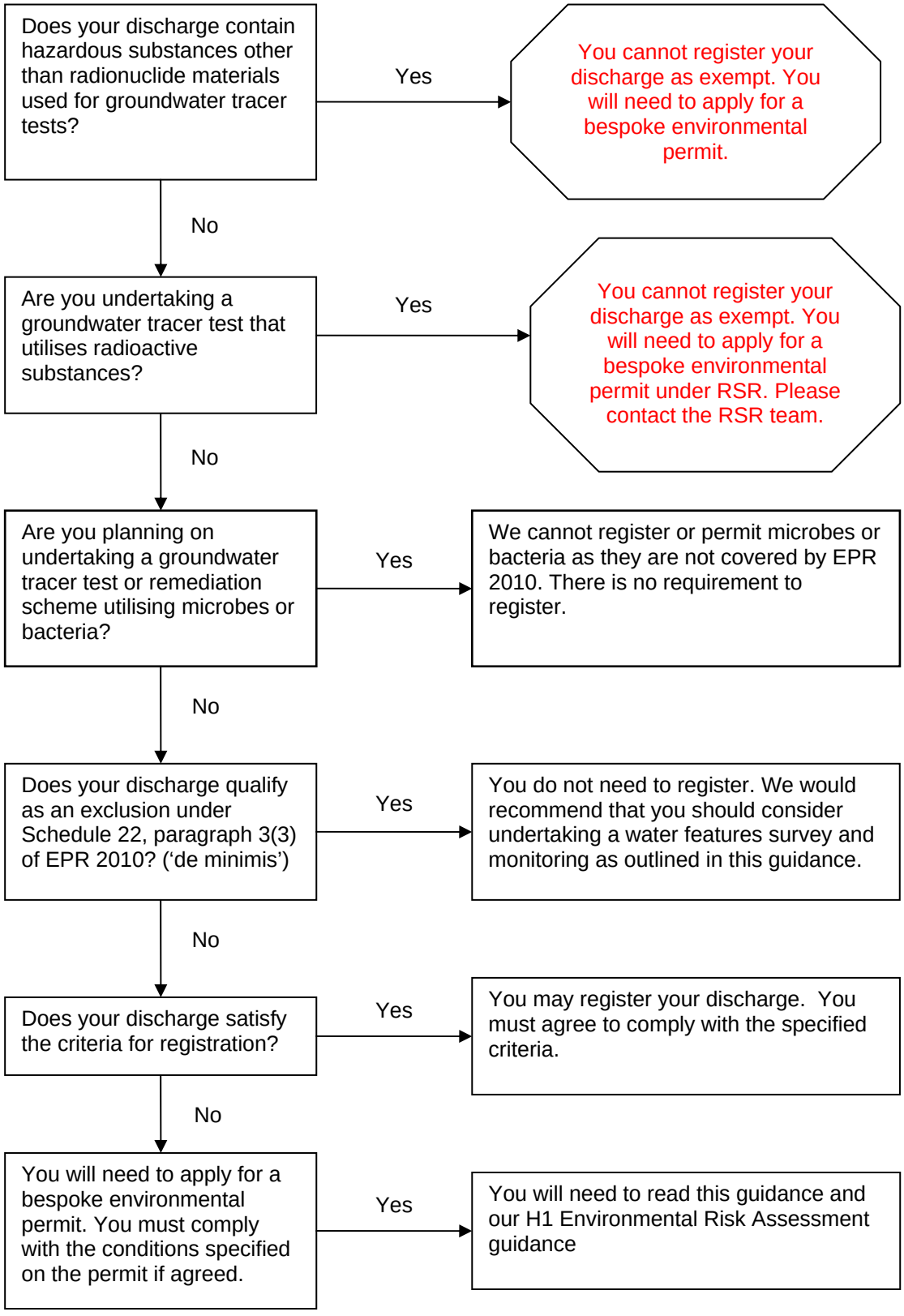
- you will monitor any receptors identified as potentially at risk by the risk assessment / water features survey during and for a sufficient time after the tracer test or groundwater remediation to demonstrate that pollution has not occurred;
- you will keep a written description of the tracer test or details of the substances used as part of the specified remediation scheme, available for inspection for a period of 6 months after the monitoring has demonstrated that pollution of groundwater has not occurred; and
- you will not make any discharge as part of the tracer test or groundwater remediation scheme within 15 days of registering the activity.

**As part of the registration process you must:**

- provide the name and address of the operator;
- provide a twelve figure Ordnance Survey National Grid reference or a post code with a map with the place where the activity is to be carried out.

# Discharge of small quantities of substances for scientific purposes

**Figure 1**. Requirements for registration



## 2.3 Specific requirements as part of the registration

### 2.3.1 Water features survey

A water features survey means a survey of all water features within 1 kilometre of the proposed activity that may be affected by it. “Water features” include boreholes, wells, adits, springs, seepage and wetland areas, ponds, lakes and watercourses (EPR, 2010).

You must carry out an appropriate water features survey in order to identify local potential receptors including any groundwater abstractions used for human consumption. The water features survey should take into account the local hydrogeological setting, aquifer conditions and the details of the proposed groundwater activity.

Your survey findings must demonstrate that the discharge will not cause pollution of any of the features identified.

In both groundwater tracer test and groundwater remediation applications, you should limit the concentration and volume of substances to be discharged to the amount strictly necessary to achieve the objective of the test / remediation.

We do not need to see the findings of your water features survey; but you should keep a record of it in case there is a problem following the activity.

### 2.3.2 Monitoring

A well-designed groundwater tracer test or groundwater remediation scheme will incorporate appropriate monitoring. By definition, a tracer test requires monitoring of parameters such as the concentration of the tracer with time and with distance from the discharge location in order to determine aquifer properties. Monitoring may involve suitably located and designed monitoring boreholes or in some cases appropriately sited springs and issues (such as for example, in karst locations). The monitoring facilities and locations should take into account the local hydrogeological conditions and the nature of the test – for example, controlled borehole–to–borehole and point dilution tracer tests, as described earlier, are likely to be carried out over small distances and limited area of the aquifer and the monitoring would be likely to focus on a limited number of injection and monitoring wells.

## 2.4 What you should do next

If you meet the criteria and agree to the conditions as outlined in Section 2.2, then you can simply register the activity.

- You will not be able to make any discharge as part of the groundwater tracer test or groundwater remediation scheme within 15 days of registering the activity. Once registered, your registration will be valid for a period of twelve months from the date of registration. However, we would like you to commence your activity as soon as possible

after the 15 days. If the details of your groundwater tracer test or remediation scheme change significantly you should update your records accordingly. You would only need to re-register if the name of the person carrying out the discharge (the operator) changes, if the planned location changes or the registration expiry date passes.

- If you meet the requirements for generic exclusion (Section 1.3.1), then you do not need to register. You are not required to undertake a water features survey or monitoring but we recommend that you should undertake this as a part of your groundwater test or remediation scheme. You do not need to supply us with the particulars as outlined in Section 2.2.

- If the discharge is not eligible for registration or generic exclusion, then you will require a bespoke environmental permit. Please contact us for further information.

- For the discharge of small quantities of substances to ground as part of a specified groundwater remediation scheme, if you have standard rules permit SR2008No27 (mobile plant for the treatment of soils and contaminated material, substances or products) **and** the accompanying Deployment Form has been agreed by us, there is no need to register provided your scheme also meets the criteria for registration (see Section 2.2).

- If the discharge involves the use of microbes and bacteria then there is no requirement to register or permit your discharge. We would recommend that you follow the principles as outlined in this document (such as monitoring, a water features survey / risk assessment and suitable record keeping). The discharge should not cause pollution of groundwater.

- We will keep a record of all registrations.

## 2.5 How to register

We would like you to apply online where possible. Alternatively a paper application form is also available.

We will maintain a register of exempt groundwater activities and put details of the activity on the register within fifteen working days of receiving the notification.

Once you have registered, you do not need to submit any further documentation to us. In compliance with the conditions as laid out in Section 2.2, you must keep a written record of the groundwater tracer test or remediation scheme. This should include details of the water features survey and the monitoring. We may ask for these if your discharge results in pollution of groundwater.

# References

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| | |
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