

# Environmental Permitting

## Environmental Permitting Guidance Groundwater Activities

For the Environmental Permitting (England and Wales)  
Regulations 2010

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Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

Department for Environment, Food and Rural Affairs  
Nobel House  
17 Smith Square  
London SW1P 3JR  
Telephone 020 7238 6000  
Website: [www.defra.gov.uk](http://www.defra.gov.uk)

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Information about this publication and copies are available from:

Defra, Environmental Permitting Programme  
5A Ergon House  
Horseferry Road  
London SW1P 2AL  
Tel: 020 7238 5097

Email: [eppadministrator@defra.gsi.gov.uk](mailto:eppadministrator@defra.gsi.gov.uk)

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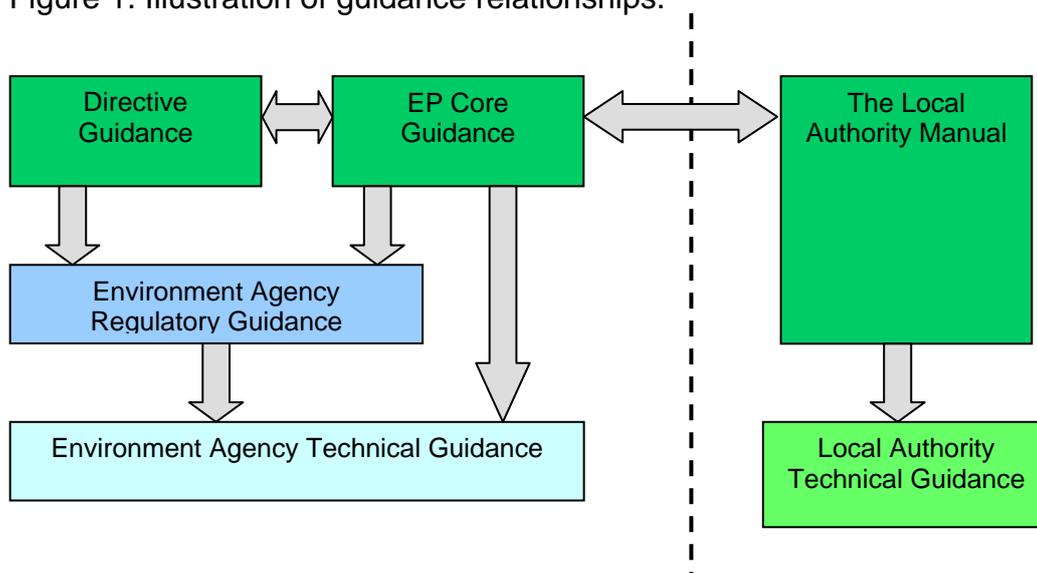
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# 1. Summary

## About this guidance

- 1.1 This guidance is intended to help the regulator, the regulated community, and others with an interest in groundwater activities. It describes the views of the Secretary of State for the Department for Environment, Food and Rural Affairs (Defra) and the Welsh Ministers on how the European Directives and other legislation relating to groundwater activities should be applied and how particular terms should be interpreted in England and Wales. This guidance explains the legal requirements but only the national or European Courts can give a definitive interpretation of the legislation.
- 1.2 'Groundwater activities' includes both those activities that require a permit, and those activities that are unlawful, for instance causing pollution to groundwater, whether deliberate or accidental.
- 1.3 This guidance is part of a series of guidance documents which accompany the Environmental Permitting (England and Wales) Regulations 2010, SI 2010 No. 675 ('the Regulations')<sup>1</sup>.

Figure 1. Illustration of guidance relationships.



- 1.4 The series consists of the Environmental Permitting Core Guidance<sup>2</sup>, which describes the general permitting and compliance requirements for all activities covered by the Environmental Permitting system, and specific guidance on each of the European Directives and other legislation

<sup>1</sup> Available at [www.defra.gov.uk/environment/policy/permits/index.htm](http://www.defra.gov.uk/environment/policy/permits/index.htm)

<sup>2</sup> *Ibid.*

implemented through the Environmental Permitting system<sup>3</sup>. This is illustrated in Figure 1.

- 1.5** This guidance should be read in conjunction with the Environmental Permitting Core Guidance.
- 1.6** The Environment Agency provides more detailed technical guidance on many aspects of groundwater activities. These are available on its website at [www.environment-agency.gov.uk/epr](http://www.environment-agency.gov.uk/epr) and <http://www.environment-agency.gov.uk/research/library/publications/40741.aspx>.
- 1.7** Along with the Directives addressed in this guidance, a number of other European Directives are relevant to groundwater activities. Connections between the Regulations and other legislation are outlined in Annex 1 to the Environmental Permitting Core Guidance.
- 1.8** Where a groundwater activity is carried on as part of the operation of a regulated facility of a different class, the Government guidance for that class of regulated facility also applies. The Environment Agency also publishes regulatory and technical guidance for these other classes – available on the Environment Agency website<sup>4</sup>.
- 1.9** To ensure this guidance is current and up to date, from time to time this guidance will be updated. Where made, revisions can be found in the 'Revision of Guidance' section at the front of the document.
- 1.10** This guidance document is compliant with the Code of Practice on Guidance on Regulation<sup>5</sup>. If you feel this guidance breaches the code, or notice any inaccuracies within the guidance, please contact the EPP team at [eppadministrator@defra.gsi.gov.uk](mailto:eppadministrator@defra.gsi.gov.uk).

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<sup>3</sup> Available at [www.defra.gov.uk/environment/policy/permits/index.htm](http://www.defra.gov.uk/environment/policy/permits/index.htm)

<sup>4</sup> [www.environment-agency.gov.uk/epr](http://www.environment-agency.gov.uk/epr)

<sup>5</sup> See Environmental Permitting Guidance and Glossary Chapter 3 – available at [www.defra.gov.uk/environment/policy/permits/index.htm](http://www.defra.gov.uk/environment/policy/permits/index.htm)

## 2. Introduction

### Groundwater Activities

- 2.1** This chapter provides an introduction to permitting groundwater activities. Chapter 3 sets out the scope of groundwater activities. Chapter 4 describes the requirements of the Groundwater and Water Framework Directives which will be delivered through environmental permits and sets out how the Regulations transpose the relevant parts of the Directives. Chapter 5 describes other requirements relevant to environmental permitting.
- 2.2** Relevant requirements for groundwater activities are set out in Schedule 22 to the Regulations, reproduced as Annex 1 to this document, and copies of the Groundwater Directives are reproduced as Annex 2.
- 2.3** Relevant requirements for exempt groundwater activities are set out in paragraph 5 of Schedule 2 to the Regulations, and descriptions of exempt groundwater activities are set out in Part 3 of Schedule 3 to the Regulations. Guidance on exempt groundwater activities is at Annex 3 of this document.
- 2.4** A separate glossary of terms is available<sup>6</sup>. The glossary briefly explains the meaning of many words, phrases and acronyms used in the Regulations and directives.

### The Environmental Permitting Regulations 2010 and the Groundwater Directives

- 2.5** The Regulations replace those parts of the Water Resources Act 1991 that relate to the regulation of discharges to controlled waters (including groundwater). Under the Regulations, groundwater activities relate to inputs of pollutants to groundwater. The Regulations also replace the Groundwater Regulations 2009 which in turn recently replaced the Groundwater Regulations 1998.
- 2.6** The Regulations transpose the Groundwater Directive 1980 (hereafter GWD)<sup>7</sup>, the Water Framework Directive 2000 and Groundwater Daughter Directive 2006 (hereafter GWDD)<sup>8</sup>. The changes from the requirements of the GWD to the GWDD involve a period of transition. This is necessary partly because the GWD remains in force until it is repealed in December 2013 and meanwhile runs in parallel with the new Directive. It is clear from the wording of the Water Framework Directive that a level of protection at least equal to that in the GWD should be retained on repeal of that Directive. The Regulations therefore need to ensure that essential requirements of the

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<sup>6</sup> Available at [www.defra.gov.uk/environment/policy/permits/index.htm](http://www.defra.gov.uk/environment/policy/permits/index.htm)

<sup>7</sup> Directive 80/68/EEC on the protection of groundwater against pollution caused by certain dangerous substances (the Groundwater Directive – GWD)

<sup>8</sup> Directive 2006/118/EC on the protection of groundwater against pollution and deterioration (the Groundwater Daughter Directive – GWDD)

GWD are not lost whilst facilitating a change from the old to the new Directives.

- 2.7** Inevitably there are uncertainties between the two Groundwater Directives and, where such doubts arise, the GWDD will be implemented. Authorisations and permits granted under the 1998 and 2009 Groundwater Regulations remain valid and become permits under the Regulations. All new permits will be granted pursuant to, and existing permits reviewed in the light of, the GWDD and the Regulations.

## 3. Scope of Groundwater Activities

### What is a 'groundwater activity'?

**3.1** The term 'groundwater activity' covers, in summary:

- the discharge of a pollutant that results in or might lead to a direct or indirect input to groundwater;
- any other discharge that might lead to a direct or indirect input of a pollutant to groundwater;
- an activity in respect of which a notice under Schedule 22 has taken effect;
- an activity that might lead to a discharge mentioned above where that activity is carried on as part of the operation of a regulated facility of another class.

It is an offence to cause or knowingly permit a groundwater activity unless authorised by a permit or registered as exempt.

**3.2** Certain activities that would otherwise need a permit can be exempted (see paragraph 3.16).

**3.3** A groundwater activity may be carried on as part of the operation of a regulated facility of another class, for example a Part A installation, or it may be a stand-alone groundwater activity. Where it is part of the operation of a regulated facility of another class, such as a non-hazardous landfill, any such requirements must at least comply with the requirements for permitted groundwater activities.

**3.4** It may be operated by an individual (for example, the person causing a polluting discharge or entry, whether accidental or intended), or an organisation or company occupying a site and operating a treatment system.

**3.5** The definition of 'groundwater' is the same as in the GWD, the 1998 and 2009 Regulations and the Water FD. Water in the unsaturated zone is not groundwater but does come within the scope of the term "ground waters" as used and defined in the Water Resources Act 1991. It will continue to be a technical decision for the Environment Agency to determine what is groundwater in certain circumstances for the purposes of the Regulations. For example, in very low permeability strata such as clays, evaporites and dense crystalline rocks it may not be possible to define a zone of saturation because the water is bound to the rock or is relatively immobile.

**3.6** The inclusion of 'pollutant' as a defined term reflects use of the term in the Directives and relies wholly on the definition of pollution. 'Pollution' is defined in exactly the same way as in the Water Framework Directive and is the

same as the definition in the 2009 Regulations and similar to that in the 1998 Regulations.

- 3.7** 'Direct input' is defined in the same way as in the 2009 Regulations and replaces the term 'direct discharge' used in the 1998 Regulations. 'Indirect input' replaces the term 'indirect discharge' used in those Regulations.

### What is not a 'groundwater activity'?

- 3.8** The following are not groundwater activities:

- Discharges made or authorised by any of the following 'prescribed statutory provisions':
  - Part 4 of the Marine and Coastal Access Act 2009 (Marine Licensing)<sup>9</sup> and Part II of the Food and Environmental Protection Act 1985<sup>10</sup>;
  - Section 163 of the Water Resources Act 1991<sup>11</sup> (discharges for works purposes by the Environment Agency);
  - Sections 165 of the Water Industry Act 1991<sup>12</sup> (discharges for certain works purposes by water undertakers);
  - any local statutory provision that expressly confers a power to discharge effluent to water.
- Discharge of trade or sewage effluent from a vessel (for example, a ship).

- 3.9** The following may be determined by the regulator not to be groundwater activities:

- the consequences of unforeseeable accidents or exceptional circumstances. It does not apply in circumstances where the release of pollutants is due to the poor design of facilities, negligence or poor operating practices, since such events are neither unforeseeable nor exceptional;
- where the input, in the opinion of the Environment Agency, is of a quantity or concentration so small as to obviate any present or future danger of deterioration in the quality of the receiving groundwater. In other words the quality of groundwater would to all intents and purposes be unaffected. A similarly worded exemption existed in the GWD and the 1998 Regulations. Case law means that this assessment had to be made purely on the basis of the intrinsic hazard of the potential discharge insofar that it could be assessed before such a discharge occurred. Under the GWDD and the Regulations an assessment may be made on the basis of the potential impact on groundwater. However, it is intended that such an assessment should not require a detailed prior examination of groundwater conditions and should be capable of

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<sup>9</sup> [www.opsi.gov.uk/acts/acts2009/pdf/ukpga\\_20090023\\_en.pdf](http://www.opsi.gov.uk/acts/acts2009/pdf/ukpga_20090023_en.pdf)

<sup>10</sup> [www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1985/cukpga\\_19850048\\_en\\_1](http://www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1985/cukpga_19850048_en_1)

<sup>11</sup> [www.opsi.gov.uk/ACTS/acts1991/ukpga\\_19910057\\_en\\_14#pt7-ch1-pb5-l1g163](http://www.opsi.gov.uk/ACTS/acts1991/ukpga_19910057_en_14#pt7-ch1-pb5-l1g163)

<sup>12</sup> [www.opsi.gov.uk/ACTS/acts1991/ukpga\\_19910057\\_en\\_14#pt7-ch1-pb6-l1g165](http://www.opsi.gov.uk/ACTS/acts1991/ukpga_19910057_en_14#pt7-ch1-pb6-l1g165)

rapid assessment of the impact on groundwater by the Environment Agency;

- where the input, in the view of the Environment Agency cannot be prevented without taking measures which would increase risks to human health or the quality of the environment as a whole. In other words, the Environment Agency may need to prioritise in favour of human health or wider environmental needs if the measures needed to protect groundwater would in themselves cause greater harm. For example, treatment may remove residual traces of substances in a discharge but may result in more serious pollution to a watercourse. In such cases both long and short term impacts should be assessed prior to granting an exemption; more immediate impacts on surface water need to be balanced against longer term impacts on groundwater;
- where the input, for technical reasons is incapable of being prevented or limited without using disproportionately costly measures to remove pollutants from, or otherwise control their percolation in contaminated land or subsoil.

In each of the cases above the exception may apply to an individual substance or group of substances within a discharge where the remainder of the discharge otherwise requires control under a permit.

**3.10** The GWDD brings within its scope two other cases which were excluded from the requirements of the GWD and 1998 Regulations. They are:

- discharges of matter containing radioactive substances;
- any discharge of domestic effluent from an isolated dwelling which is not connected to a sewerage system and which is situated outside any area protected for the abstraction of water for human consumption.

The Environment Agency is required to keep records of its determinations of inputs that are not groundwater activities. These may be specific or generic.

## **Notices to require a permit**

### **Discharges from activities in general**

**3.11** The regulator can serve a notice specifying that, from a date specified on the notice, some activities not ordinarily regulated as groundwater activities (e.g. storage tanks leaking pollutants to ground) are groundwater activities, and therefore cannot be operated unless authorised by a permit or unless exempt. Special conditions apply to discharges arising from highway drains and the operation of septic tanks and sewage treatment plants.

### **Discharge from a highway drain**

- 3.12** The regulator can serve a notice specifying that the operation of a highway drain (where that activity might lead to a discharge) is a groundwater activity from the specified date. This means the activity cannot be carried on without being authorised by an environmental permit. Such a notice may be served on a highway authority, or any other person entitled to keep open a drain under Section 100 of the Highways Act 1980. A notice specifies the date from which it takes effect, which will be not less than six months after being served.

### **Discharge from septic tanks and sewage treatment plant**

- 3.13** Before 1<sup>st</sup> January 2012, it is not an offence to use a septic tank or sewage treatment plant with a discharge of 2 cubic metres per day or less to groundwater without an environmental permit, unless a notice has been served by the regulator on the person making the discharge to indicate that a permit is required (paragraph 12 of Schedule 22 to EP Regulations). The Environment Agency should only make use of this power where there is, or there is a reasonable expectation that there will be, pollution as a consequence of an unregulated discharge operating over this period.
- 3.14** After 1<sup>st</sup> January 2012 such a discharge cannot be carried on without either being authorised by an environmental permit or registered as an exempt groundwater activity.
- 3.15** Such notices must specify the date from which they take effect, which will be not less than three months after being served.

### **Exemptions**

- 3.16** Groundwater activities that meet certain conditions can be exempted from the requirement for a permit. These are described briefly below. Any exempt groundwater activity must be registered with the regulator, and the regulator must be notified if the exempt groundwater activity ceases to be in operation. At this time, the works and equipment for treating and discharging must be appropriately decommissioned to reduce the risk of further pollution.

### **Discharge of sewage effluent**

- 3.17** A discharge from a small sewage treatment plant, i.e. discharging two cubic metres per day or less of sewage effluent that results in the input of pollutants to groundwater, may be registered as an exempt groundwater activity, provided it meets certain conditions<sup>13</sup>. These are that:
- all works and equipment used for the treatment and discharge of sewage effluent must meet certain requirements, which are described in Annex 3. These cover the standards for design and manufacture; construction,

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<sup>13</sup> See the section on Exemptions in the Environmental Permitting Core Guidance

installation, operation and maintenance specifications; and siting and installation.

- the discharge could not reasonably have been made to the foul sewer at the time it was first made; that the discharge does not contain trade effluent; and that all works and equipment for the treatment and discharge of the sewage effluent are maintained as specified by the manufacturer. Records of maintenance work must be kept for at least five years after the work has been done.

**3.18** When an occupier of land on which an exempt groundwater activity operates ceases to occupy that land, that occupier must notify the next occupier of the land of the exempt groundwater activity. This notice must

- describe the exempt facility;
- state the conditions of the exemption; and
- be accompanied by the records of any maintenance that had been carried out in the preceding five years.

#### **Discharge of small quantities of substances for scientific purposes**

**3.19** An exemption from permitting is available for those seeking to discharge small quantities of substances to ground as part of a specified groundwater remediation scheme or a groundwater tracer test. These exemptions must be registered, details of which are provided in Annex 3.

## 4. Permitting

- 4.1** In the context of this guidance, ‘permitting’ is taken to mean the complete regulatory cycle which includes application, determination, reporting, compliance and surrender. This Chapter describes the requirements that the permitting process must deliver.
- 4.2** Permitting requirements derive from the relevant Directives and other legislation, as transposed in England and Wales. In the permitting process, the Environment Agency must have regard to any Statutory Guidance and should also take into account relevant Commission Recommendations and statements of Government policy and national strategies.

### The Water Framework Directive

- 4.3** The Water Framework Directive integrates the requirements of a number of existing directives, and introduces new environmental objectives. It does not seek to change or overrule the objectives set out in other directives: equivalent measures are put in place to maintain the level of protection provided in any directives that it repeals<sup>14</sup>.
- 4.4** The aims of this Directive are to:
- prevent further deterioration of aquatic ecosystems;
  - to protect, enhance and improve the aquatic environment;
  - to promote sustainable water use;
  - to provide further protection to the aquatic environment; and
  - to ensure the progressive reduction of pollution of groundwater and prevent its further pollution.

### The Groundwater Directives

- 4.5** In summary, these Directives<sup>15</sup> require that inputs (discharges) of pollutants to groundwater are either prevented or limited, to avoid or control groundwater pollution. In so doing such measures should also prevent the deterioration of the chemical status of groundwater bodies and avoid (environmentally) significant and sustained upward trends in the concentration of pollutants in groundwater.

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<sup>14</sup> The Freshwater Fish Directive, the Shellfish Waters Directive, the Dangerous Substances Directives and the Groundwater Daughter Directive are to be repealed in 2013.

<sup>15</sup> Directive 80/68/EEC on the protection of groundwater against pollution caused by certain dangerous substances (the Groundwater Directive – GWD) and Directive 2006/118/EC on the protection of groundwater against pollution and deterioration (the Groundwater Daughter Directive – GWDD).

## Definitions relevant to the requirements of the Groundwater Directives

### Hazardous substance

- 4.6** The List I and List II groupings of substances under the GWD and 1998 Regulations no longer apply. Substances are instead treated as either 'hazardous substances' (initially broadly equating to the former List I) or non-hazardous pollutants' (analogous to the former List II, but potentially applying to all other pollutants)
- 4.7** 'Hazardous substance' is defined in Article 2(29) of the Water FD as meaning 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. Article 6.1 of the GWDD adds an indicative list to this description by reference to list of pollutants in Annex VIII to Water Framework Directive. This comprises a combination of List I substances from the GWD (and the annex to the 1998 Regulations) and any other substances which meet the criteria for persistence, toxicity and bioaccumulation taking into account those substances listed in Water Framework Directive Annex VIII. List I substances are effectively a (large) subset of the potentially wider group of hazardous substances.
- 4.8** For the purpose of clarity the Environment Agency is required to maintain and publish a list of hazardous substances.
- 4.9** The identification of hazardous substances will be the responsibility of the Environment Agency on the recommendation of the Joint Agencies Groundwater Directive Advisory Group (JAGDAG). JAGDAG comprises a committee of experts drawn from the UK environment agencies, research and consultancy interests, the water industry and various other sector interests. In the absence of formal JAGDAG determinations the Environment Agency may make preliminary determinations to enable it to fulfil its statutory duties. All such interim determinations should be referred to JAGDAG for prompt review.
- 4.10** The GWD and the 1998 Groundwater Regulations required Member States and competent authorities to determine which substances or compounds could be removed from List I in the light of the risks posed by their intrinsic properties. The GWDD requires a different approach by which Member States or their competent authorities determine which substances should be determined as hazardous on the basis of their toxicity, persistence and capacity to bio-accumulate – i.e. positive determination rather than removal from a pre-determined list. This provides greater flexibility to include substances within, or alternatively exclude them from, the 'hazardous' category. In practice substances which have been determined as List I will continue to be regarded as hazardous and will only be reviewed if new evidence becomes available.
- 4.11** Due to their nature, it is considered that all radioactive substances are hazardous substances.

## **Non hazardous pollutant**

- 4.12** There are no longer specified lists of substances over which control may be exercised under the GWDD and the Regulations. All substances which are not determined to be hazardous are potentially non-hazardous pollutants. This enables control to be exercised over polluting substances which have hitherto been beyond control purely because, regardless of their impact, they were not listed in the GWD. In practice the Environment Agency will need to deal with substances which are current priorities of concern. It is clearly not necessary to expand the field to include all other substances in all circumstances unless they are liable to cause pollution.

### **`Direct discharge' into groundwater**

- 4.13** The definition of 'direct discharge' to groundwater in the Water Framework Directive refers to discharge of pollutants into groundwater "*..without percolation throughout the soil or subsoil*". A discharge can be regarded as direct, i.e. there is no percolation, for example:

- where it is made into an open man made structure such as a shaft, borehole or well which extends down to or into the water table,
- where it is made into a natural feature such as a swallow hole via uninterrupted cascade or very rapidly down open, vertical or near vertical conduits,
- where leachate arising from the deposit of any waste material below the water table moves into surrounding ground without the presence of a natural geological barrier or engineered barrier constructed to relevant standards.

- 4.14** A discharge is indirect, i.e. percolation does occur, for example:

- where it is made into a natural feature and the connection between the surface and the saturated zone is tortuous, i.e. gradual rather than a cascade;
- when a discharge infiltrates a natural soil or rock via a soakaway, drainage field or other similar feature – provided an unsaturated zone is maintained;
- where leachate arising from deposit of any waste material below the water table moves into surrounding ground across a natural geological barrier or engineered barrier constructed to relevant standards.

In practice the Environment Agency may need to determine on a case by case basis whether a discharge is direct or not and may issue technical guidance on its approach to this assessment.

## Prevention of inputs of hazardous substances

**4.15** During negotiations on the GWDD the nature of the duty to prevent was discussed at length and the European Commission subsequently issued Common Implementation Strategy guidance on the implementation of the Water Framework Directive and the GWDD, by way of clarification. (CIS Guidance Note No. 17 – Guidance on preventing or limiting direct and indirect inputs in the context of the Groundwater Directive 2006/118/EC, section 3.4.)

**4.16** This guidance states

*“The broadening of controls on pollutants by the WFD noted above, is now balanced by a series of exemptions introduced by the GWDD (Article 6.3). It is indeed not technically feasible to stop all inputs of hazardous substances, and some small inputs are environmentally insignificant and therefore do not present a risk to groundwater. Without these exemptions, the “prevent” requirement would imply an onerous and sometimes unfeasible task. Each exemption applies to both the ‘prevent’ and the ‘limit’ objective (both hazardous and non-hazardous substances) but must not override other more stringent requirements in other EC legislation.*

*To “prevent” an input into groundwater means: taking all measures deemed necessary and reasonable to avoid the entry of hazardous substances into groundwater and to avoid any significant increase in concentration in the groundwater, even at a local scale. “Reasonable” means technically feasible without involving disproportionate costs. How to define “disproportionate costs” depends on the local circumstances”.*

Note : The CIS guidance outlines what Member States should do. In practice this will be achieved via a combination of the actions by regulatory authorities and the regulated. Reference to measures below is to both actions by the Environment Agency and those actions (technical precautions) that the Environment Agency should seek from operators via conditions on permits or notices. The purpose of this guidance is to explain how the CIS guidance should be applied – it does not seek to prescribe the actions in any specific case (the Environment Agency may issue its own guidance for such purposes).

**4.17** The CIS interpretation of “prevent” recognises that there is a practical limit to what realistically can be achieved within the overall context of aiming to avoid the introduction of all hazardous substances into groundwater. It is possible to deploy only those measures which are technically feasible and proportionate, including in terms of cost.

**4.18** An input of hazardous substances would be prevented, for example, if:

- there is no discernible concentration of a hazardous substance in the discharge. This would also clearly come within the exemption under paragraph 3(3)(b) of Schedule 22, with only limited assessment needed to make this judgement; or

- there are no discernible concentrations of hazardous substances attributable to the discharge in groundwater immediately down-gradient of the discharge zone, subject to adequate monitoring (or in the case of new discharges a detailed predictive hydro-geological impact assessment); or
- there are (or are predicted to be) discernible concentrations of hazardous substances in the groundwater down-gradient of the discharge zone attributable to the discharge but all of the following conditions apply:
  - (a) concentrations will not result in any actual pollution or a significant risk of pollution in the future; and
  - (b) there is no progressive increase in the concentration of hazardous substances outside the immediate discharge zone, i.e. there will be no statistically and environmentally significant and sustained upward trend or significant increasing frequency in pollutant “spikes”; and
  - (c) all necessary and reasonable measures to avoid the entry of hazardous substances into groundwater have been taken (see below).

### **Necessary and Reasonable Measures**

- 4.19** Assessment of necessary measures must be preceded by investigation to determine pathways and is a site-specific judgement.
- 4.20** A reasonable measure would be one where the necessary technical precautions to prevent inputs to groundwater are technically feasible, not disproportionately costly and are within the control of the operator. Such measures could include: source control, alteration of discharge mechanism, treatment of the discharge, interception or diversion of contaminated groundwater, and diversion of the discharge to another disposal route. For new developments this could include simply not conducting the activity in a location where valuable groundwater resources would be particularly vulnerable to inputs of hazardous substances.
- 4.21** Any measures taken should not result in a net environmental disbenefit.
- 4.22** If there is actual pollution, or a substantial risk of such pollution, remedial measures must be taken. Cost-benefit assessment is not a factor in deciding *whether* to take action in such cases but may be a consideration in determining *which* precautions are necessary.

## Permitting requirements of the Groundwater Directives

### Preventing the input of hazardous substances to groundwater

- 4.23** Not all discharges of hazardous substances will necessarily result in direct or indirect inputs to groundwater. The Regulations require the Environment Agency to take all the necessary measures to prevent such inputs occurring. This obligation will have indirect effect on applicants as a result of enquiries and assessments required prior to determination of an application or as conditions in a permit.
- 4.24** The definition of 'direct' in relation to inputs to groundwater mirrors the definition used in the 1998 Regulations in respect of 'direct' discharges. As described above, this definition is interpreted to mean that, for a discharge to be construed as direct, there will have been an input to groundwater with no percolation through the soil or ground or other natural or artificial barrier. This includes, for example, an engineered barrier or geological barrier in the case of solid waste disposal facilities.
- 4.25** An indirect input to groundwater is one where the input to groundwater occurs via percolation (seepage) through the soil or subsoil, including through the unsaturated zone of the aquifer in which the groundwater occurs or through a natural or artificial barrier, as noted above.
- 4.26** The Water Framework Directive places a restriction on direct inputs of pollutants to groundwater. Article 6 of the GWDD clarifies the requirement to take all measures necessary to prevent inputs of hazardous substances and to limit inputs of non-hazardous pollutants so as to avoid pollution. This approach is followed in the Regulations.
- 4.27** It is the clear objective of the GWDD to prevent the input of all hazardous substances into groundwater. Clearly the interpretation of 'prevent' is important in this context and is to be interpreted having regard to the Common Implementation Strategy guidance issued by the European Commission<sup>16</sup> as noted above. This recognises that, whilst the aim is to avoid the introduction of hazardous substances into groundwater, it may not be technically feasible to stop all inputs of hazardous substances. Moreover some inputs are environmentally insignificant<sup>17</sup> and in such instances the exemption noted in paragraph 3(3)(b) of Schedule 22 may be applied.
- 4.28** When considering what is environmentally significant and which measures are "necessary" in the case of radioactive substances, consideration should be

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<sup>16</sup> CIS Guidance Note 17 – Guidance on preventing or limiting direct and indirect inputs in the context of the Groundwater directive 2006/118/EC. 2007.  
[http://ec.europa.eu/environment/water/water-framework/groundwater/scienc\\_tec/cis/index\\_en.htm](http://ec.europa.eu/environment/water/water-framework/groundwater/scienc_tec/cis/index_en.htm)

<sup>17</sup> For example, an environmentally insignificant input into groundwater would be one that could not have any effect on (i) any of the receptors noted in the Water Framework/GWDD definition of pollution (ii) the chemical status of a groundwater body; or (iii) could give rise to a significant and sustained rising trend in the concentrations of pollutants in groundwater as noted in those directives.

given to the significance of any input in respect of the radiation doses which might be received by people and non-human species due, for example, to plausible future abstractions of drinking water and to natural processes involving the return of groundwater to the other environmental media. The Environment Agency should have regard to the radiological protection system of the International Commission on Radiological Protection and must have regard to the standards specified in Euratom Directives of the European Union. This is intended to ensure conformity with the radiological protection system of the International Commission on Radiological Protection (ICRP) and standards specified in Euratom Directives of the European Union.

- 4.29** Also in the case of radioactive substances, when considering which measures are “reasonable”, the radiation protection principle of optimisation should be observed. This principle requires that radiation doses to people are kept as low as reasonably achievable, subject to economic and social factors. It will also be necessary to manage radiological risks to non-human species together with any non-radiological hazards associated with radioactive waste.
- 4.30** The main controls for radioactive substances are the requirement for an environmental permit under the Regulations. In the case of any site licensed by the Health and Safety Executive (HSE) under the Nuclear Installations Act 1965, HSE (not the Agency) holds the statutory power to regulate the use and storage of radioactive substances by the nuclear site licensee on the site, and thereby to ensure that there is no unintended release of radioactive substances to groundwater. The Environment Agency regulates the disposal of radioactive waste on or from those sites.
- 4.31** For disposals of any solid wastes, absolute and indefinite containment of pollutants within a disposal facility will not be achievable. At some point after a disposal facility has closed, there will eventually be some inputs into groundwater. These facilities should be designed such that the long term inputs of hazardous substances to groundwater will be insignificant from an environmental and human health perspective.
- 4.32** The exemption from the requirement to prevent the entry of List I substances to groundwater where the groundwater was considered to be *permanently unsuitable for other uses* that was in the GWD and 1998 Regulations is not repeated in the GWDD or these Regulations.
- 4.33** When determining applications for permitting inputs of pollutants to groundwater the Environment Agency must not only consider what is needed to ‘prevent or limit’ such inputs but also avoid measures which would compromise other Water Framework Directive objectives.

#### **Non-hazardous pollutants to avoid pollution**

- 4.34** This relates to direct and indirect inputs of non-hazardous pollutants to groundwater. The Environment Agency must be satisfied that pollution of groundwater will not be caused (which includes avoiding causing deterioration in status or environmentally significant and sustained upward trends in the

concentration of pollutants) and ensure that the proposal and any conditions necessary to achieve this objective are attached to the permit.

### **Discharges that may be permitted**

- 4.35** Provision is made in paragraph 8 of Schedule 22 of the Regulations for a list of circumstances in which discharges which (may) result in inputs of pollutants to groundwater may be permitted. Permits may be granted for these, provided that such permits do not compromise the achievement of the other Water Framework Directive Article 4 objectives for groundwater (namely good chemical status, no deterioration in status and reversing significant and sustained upward trends of pollutants).

### **Prior investigation**

- 4.36** More general requirements when considering an application for a permit which might lead to the discharge of a pollutant include the requirement for prior investigation of the circumstances of such applications. As a minimum, a permit may not be granted unless hydro-geological conditions, the purifying powers of the soil and subsoil and the risk of pollution and alteration of the quality of the groundwater have been examined. Where a permit is granted, conditions to the permit must require any necessary technical precautions to be observed to prevent inputs of hazardous substances, and to limit the input of non-hazardous pollutants, to groundwater so as to ensure that such inputs do not cause pollution of groundwater.
- 4.37** The Regulations do not make significant changes to the way land contamination<sup>18</sup> is regulated. However, as was previously the case, a passive release of pollutants from such land where the original activity that led to the contamination has ceased is not considered to be a discharge to groundwater which needs a permit under the Regulations as there is no surface activity to control. Only if there is activity which disturbs such land which causes a release of pollutants is there then a discharge to groundwater potentially requiring a permit.
- 4.38** It is envisaged that passive discharges will continue to be controlled via a combination of the development planning system, Part 2A of the Environmental Protection Act 1990 and Anti-Pollution Works Notices under section 161A of the Water Resources Act 1991.

### **Discharges into and from Public Sewers**

- 4.39** Under the Water Resources Act 1991, in certain circumstances a sewerage undertaker may be liable for discharges to groundwater even where it did not

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<sup>18</sup> Land that has contamination present which may, or may not, meet the statutory definition of contaminated land given in Part 2A of the Environmental Protection Act 1990 and as explained in the Defra Guidance on the Legal Definition of Contaminated Land from July 2008.

cause or knowingly permit the discharge, if the discharge came from a sewer it owns and operates. This situation has been reflected in the Regulations.

- 4.40** Where there is more than one sewerage undertaker operating on a sewerage network, a sewerage undertaker may be liable if it received the matter included in the discharge into its sewer. Liability also depends on whether the undertaker was bound to receive effluent into their sewers, whether unconditionally or subject to conditions that were observed.

## 5. Other requirements

### Permit reviews

- 5.1** The GWD required that authorisations should be reviewed on at least a four-yearly basis and this requirement was reflected in the 1998 Regulations. A similar review process is also necessary as part of the process of drawing up or reviewing programmes of measures contained in river basin management plans. The review process has to ensure that the requirements of the GWDD are met as well as ensuring that no lesser level of protection is provided by comparison with the GWD. The Regulations require that all existing permits must be reviewed by 22 December 2012 by which time the first programme of measures under the Water Framework Directive must be fully operational. It also coincides with the last four-yearly cycle under existing permit review arrangements.
- 5.2** In future permits will be reviewed on the basis of risk to the environment since no time period for review is stipulated in the GWDD. In practice it will probably be appropriate to review permits every six years to coincide with river basin management plan reviews of programmes of measures, unless problems become apparent sooner. The scope of reviews should take into account the risk to the environment.

### Prohibition notice

- 5.3** Where an activity 'in or on ground' is carried out in a way which might lead to the input to groundwater of a hazardous substance or non-hazardous pollutant, the Environment Agency may serve a notice on the person prohibiting the activity. Breach of a prohibition notice is an offence. A prohibition notice may be served on the person carrying on an activity and may be withdrawn at any time.
- 5.4** Radioactive substances used and stored by a nuclear site licensee on a site licensed under the Nuclear Installations Act 1965 are regulated by HSE, not the Environment Agency, as noted above in paragraph 4.30. Prohibition notices are not the appropriate mechanism of control in such cases.

### Guidance including Codes of Practice

- 5.5** Provision is made in the Regulations to mirror regulation 21 of the 1998 Groundwater Regulations. It provides for the appropriate authority to issue guidance to those who may cause inputs of pollutants to groundwater. Such guidance can indicate the steps necessary to meet the requirements to prevent or limit the input of pollutants to groundwater. This guidance includes Codes of Practice such as those existing codes that were produced to facilitate compliance with the former Groundwater Regulations. The provision in the Regulations is wider than that in the Groundwater Regulations but the main focus is still intended to be on those activities that should not normally require an environmental permit. Compliance with such guidance would not guarantee compliance with the Regulations.

**5.6** As under the 1998 Regulations, the Environment Agency must take into account whether the guidance is being, or is likely to be, complied with before taking enforcement action (including service of a prohibition notice). The guidance will be publicised as the appropriate authority (normally the Secretary of State or Welsh Ministers) sees fit.

# Annex 1 – Schedule 22 to the Environmental Permitting Regulations

**N.B. Document in an accessible format is available at:**

[http://www.legislation.gov.uk/ukxi/2010/675/pdfs/ukxi\\_20100675\\_en.pdf](http://www.legislation.gov.uk/ukxi/2010/675/pdfs/ukxi_20100675_en.pdf)

## SCHEDULE 22

Regulation 35(2)(p)

### Groundwater activities

#### Application

1. This Schedule applies in relation to every groundwater activity.

#### Interpretation

2. In this Schedule—

“body of groundwater” has the same meaning as in the Water Framework Directive;

“direct input” in relation to groundwater means the introduction of a pollutant to groundwater without percolation through soil or subsoil;

“Groundwater Daughter Directive” means Directive 2006/118/EC of the European Parliament and of the Council on the protection of groundwater against pollution and deterioration(a);

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(a) OJ No L 372, 27.12.2006, p 19.

“Groundwater Directive” means Council Directive 80/68/EEC on the protection of groundwater against pollution caused by certain dangerous substances(a);

“indirect input” in relation to groundwater means the introduction of a pollutant to groundwater after percolation through soil or subsoil; and

“surface waters” has the same meaning as in the Water Framework Directive.

#### Meaning of “groundwater activity”

3.—(1) Subject to sub-paragraphs (2) and (3), “groundwater activity” means any of the following—

- (a) the discharge of a pollutant that results in the direct input of that pollutant to groundwater;
- (b) the discharge of a pollutant in circumstances that might lead to an indirect input of that pollutant to groundwater;
- (c) any other discharge that might lead to the direct or indirect input of a pollutant to groundwater;
- (d) an activity in respect of which a notice under paragraph 10 has been served and has taken effect;
- (e) an activity that might lead to a discharge mentioned in paragraph (a), (b) or (c), where that activity is carried on as part of the operation of a regulated facility of another class.

(2) A discharge or an activity that might lead to a discharge is not a “groundwater activity” if the discharge is—

- (a) made, or authorised to be made, by or under any prescribed statutory provision; or
- (b) of trade effluent or sewage effluent from a vessel.

(3) The regulator may determine that a discharge, or an activity that might lead to a discharge, is not a groundwater activity if the input of the pollutant—

- (a) is the consequence of an accident or exceptional circumstances of natural cause that could not reasonably have been foreseen, avoided or mitigated;
- (b) 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; or
- (c) is or would be incapable, for technical reasons, of being prevented or limited without using—
  - (i) measures that would increase risks to human health or to the quality of the environment as a whole, or
  - (ii) disproportionately costly measures to remove quantities of pollutants from, or otherwise control their percolation in, contaminated ground or subsoil.

(4) The regulator must keep a record of all determinations under sub-paragraph (3).

#### Meaning of “hazardous substance”

4.—(1) A hazardous substance is any substance or group of substances that are toxic, persistent and liable to bio-accumulate.

(2) This includes in particular the following when they are toxic, persistent and liable to bio-accumulate—

- (a) organohalogen compounds and substances which may form such compounds in the aquatic environment,
- (b) organophosphorous compounds,
- (c) organotin compounds,

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(a) OJ No L 20, 26.1.1980, p 43.

- (d) substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment,
- (e) persistent hydrocarbons and persistent and bioaccumulable organic toxic substances,
- (f) cyanides,
- (g) metals (in particular, cadmium and mercury) and their compounds,
- (h) arsenic and its compounds,
- (i) biocides and plant protection products.

(3) The regulator must publish a list of substances that it considers to be hazardous substances.

### **Meaning of “non-hazardous pollutant”**

5. A non-hazardous pollutant is any pollutant other than a hazardous substance.

### **Exercise of relevant functions**

6. For the purposes of implementing the Groundwater Directive, the Water Framework Directive and the Groundwater Daughter Directive, the regulator must, in exercising its relevant functions, take all necessary measures—

- (a) to prevent the input of any hazardous substance to groundwater; and
- (b) to limit the input of non-hazardous pollutants to groundwater so as to ensure that such inputs do not cause pollution of groundwater.

### **Applications for grant of environmental permit**

7.—(1) This paragraph applies to an application for the grant of an environmental permit relating to—

- (a) a discharge mentioned in paragraph 3(1)(a), (b) or (c); or
- (b) an activity that might lead to such a discharge.

(2) When the regulator receives an application, it must ensure that all necessary investigations have been carried out to ensure that it grants any permit in accordance with paragraph 6.

(3) If it grants the permit, it must include conditions requiring all necessary technical precautions to be observed to ensure the objectives of paragraph 6 are achieved.

(4) A permit may not be granted—

- (a) without examination of—
  - (i) the hydrogeological conditions of the area concerned,
  - (ii) the possible purifying powers of the soil and subsoil, and
  - (iii) the risk of pollution and alteration of the quality of the groundwater from the discharge, and
- (b) without establishing whether the input of pollutants to groundwater is a satisfactory solution from the point of view of the environment.

(5) A permit may only be granted if the regulator has checked that the groundwater (and, in particular, its quality) will undergo the requisite surveillance.

### **Groundwater activities for which a permit may be granted**

8. Despite paragraph 6, provided it does not compromise the achievement of any of the environmental objectives relating to groundwater in Article 4 of the Water Framework Directive, the regulator may grant an environmental permit for—

- (a) the injection of water containing substances resulting from the operations for exploration and extraction of hydrocarbons or mining activities, and injection of water for technical reasons, into geological formations from which hydrocarbons or other substances have been extracted or into geological formations which for natural reasons are permanently unsuitable for other purposes, provided that the injection does not contain substances other than those resulting from the above operations,
- (b) the reinjection of pumped groundwater from mines and quarries or associated with the construction or maintenance of civil engineering works,
- (c) the injection of natural gas or liquefied petroleum gas for storage purposes into geological formations which for natural reasons are permanently unsuitable for other purposes,
- (d) the injection of natural gas or liquefied petroleum gas for storage purposes into other geological formations where there is an overriding need for security of gas supply, and where the injection is such as to prevent any present or future danger of deterioration in the quality of any receiving groundwater,
- (e) construction, civil engineering and building works and similar activities on or in the ground which come into contact with groundwater,
- (f) discharges of small quantities of substances for scientific purposes for characterisation, protection or remediation of bodies of water limited to the amount strictly necessary for the purposes concerned,
- (g) interventions in surface waters for the purposes, amongst others, of mitigating the effects of floods and droughts, and for the management of waters and waterways,
- (h) the artificial recharge or augmentation of a body of groundwater for the purposes of groundwater management,
- (i) reinjection into the same aquifer of water used for geothermal purposes.

**Prohibition notice**

9.—(1) This paragraph applies where—

- (a) any person is carrying on, or proposing to carry on, any activity on or in the ground; and
- (b) that activity might lead to a discharge mentioned in paragraph 3(1)(a), (b) or (c).

(2) The regulator may serve a notice on the person prohibiting the carrying on of the activity.

(3) The regulator may withdraw a prohibition notice at any time by further notice served on the person.

**Notice requiring environmental permit**

10.—(1) This paragraph applies where—

- (a) any person is carrying on, or proposing to carry on, any activity on or in the ground; and
- (b) that activity might lead to a discharge mentioned in paragraph 3(1)(a), (b) or (c).

(2) The regulator may serve a notice on the person requiring the person, from the date the notice takes effect, to hold an environmental permit authorising the carrying on of the activity.

(3) A notice under paragraph (1) takes effect on the date specified in it, but—

- (a) a notice served for the purpose of paragraph 11 must not take effect until at least 6 months after it is served; and
- (b) a notice served for the purpose of paragraph 12, or for any other purpose, must not take effect until at least 3 months after it is served.

#### **Notice in relation to a highway drain**

11. A highway authority or other person entitled to keep open a highway drain by virtue of section 100 of the 1980 Act who operates a highway drain other than under and in accordance with an environmental permit is not guilty of an offence under regulation 38(1) unless—

- (a) the regulator has served a notice on that person under paragraph 10 of this Schedule; and
- (b) the notice has taken effect.

#### **Notice in relation to a domestic septic tank or sewage treatment plant**

12. Before 1st January 2012, a person who, other than under and in accordance with an environmental permit, uses a septic tank or sewage treatment plant with a discharge of 2 cubic metres per day or less of sewage effluent that results in the input of pollutants to groundwater is not guilty of an offence under regulation 38(1) unless—

- (a) the regulator has served a notice on that person under paragraph 10 of this Schedule; and
- (b) the notice has taken effect.

#### **Guidance**

13.—(1) The appropriate authority may issue guidance to persons causing or liable to cause inputs of pollutants to groundwater with respect to the steps they must take to prevent or limit those pollutants from entering groundwater.

(2) The regulator must take into account whether or not such guidance is or is likely to be complied with before taking any enforcement action under these Regulations.

(3) Guidance must be publicised as the appropriate authority sees fit.

### **Liability resulting from discharge of sewage effluent from public sewer**

14.—(1) This paragraph applies for the purpose of determining liability for a groundwater activity that consists of a discharge of sewage effluent from a discharging sewer vested in a discharging undertaker.

(2) A discharging undertaker causes a discharge of sewage effluent if—

- (a) matter included in the discharge is received by the discharging undertaker into the discharging sewer or into any other sewer or works vested in it;
- (b) the discharging undertaker was bound (either unconditionally or subject to conditions which were observed) to receive the matter into the discharging sewer or other sewer or works; and
- (c) sub-paragraph (3) does not apply.

(3) This sub-paragraph applies if, before the discharging undertaker discharges the sewage effluent from the discharging sewer, the sending undertaker, under an agreement with the discharging undertaker under section 110A of the Water Industry Act 1991, discharges the sewage effluent through a main connection into—

- (a) the discharging sewer; or
- (b) any other sewer or works vested in the discharging undertaker.

(4) If sub-paragraph (3) applies, the sending undertaker causes the discharge if—

- (a) matter included in the discharge was received by the sending undertaker into a sewer or works vested in it; and
- (b) it was bound (either conditionally or subject to conditions which were observed) to receive that matter into that sewer or works.

(5) A sewerage undertaker is not guilty of an offence under regulation 38(1) in relation to a groundwater activity that consists of a discharge of sewage effluent from a sewer or works vested in it if—

- (a) the contravention is attributable to a discharge which another person caused or knowingly permitted to be made into the sewer or works;
- (b) the undertaker either was not bound to receive the discharge into the sewer or works or was bound to receive it there subject to conditions which were not observed; and
- (c) the undertaker could not reasonably have been expected to prevent the discharge into the sewer or works.

(6) A person is not guilty of an offence under regulation 38(1) in relation to a discharge which the person caused or knowingly permitted to be made into a sewer or works vested in a sewerage undertaker if that undertaker was bound to receive the discharge, either unconditionally or subject to conditions which were observed.

## Annex 2 – The Groundwater Directives (Weblinks)

Council Directive 2006/118/EC on the protection of groundwater against pollution and deterioration (the Groundwater Daughter Directive – GWDD)

**available at:**

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:372:0019:0031:EN:PDF>

Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances

**available at:**

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31980L0068:EN:HTML>

# Annex 3 – Registration of Exempt Groundwater Activities Part 1: Small discharges of sewage effluent

## Introduction

- A.3.1** This guidance annex is aimed at those regulating small discharges of sewage effluent and those who are manufacturing, installing, maintaining or operating sewage treatment plants including householders and others, such as water companies. It relates to discharges to groundwater only. Separate guidance is available for small sewage discharge activities that discharge to surface water (i.e. water discharge activities)<sup>19</sup>.
- A.3.2** In this Annex, groundwater activities that relate to small discharges of sewage effluent of 2 cubic metres per day or less are referred to as ‘small sewage effluent groundwater activities’.
- A.3.3** This Annex expands on paragraphs 3.16 - 3.18 of this guidance. The Environment Agency website provides more detailed technical guidance on many aspects of registration of exempt facilities<sup>20</sup>.
- A.3.4** The requirements for the registration of exempt groundwater activities are set out in Part 2 of Schedule 2, and Part 3 of Schedule 3 to the Regulations.
- A.3.5** The next section of this Annex sets out the scope of the registration process for small sewage effluent groundwater activities. The third section provides the requirements for registration. The final section sets out the other requirements.
- A.3.6** Regulation 74 means that the requirement for a permit does not apply until 1 January 2012 in the case of a domestic sewage treatment plant or septic tank with a daily discharge of 2 cubic metres or less. Thereafter a permit or registration would be required. Meanwhile, where such a facility runs a significant risk of polluting groundwater, or threatens the quality of a drinking water resource, the Environment Agency may serve a notice to prohibit the activity (under paragraph 10 of Schedule 22 to the Regulations (See Annex1)) or to require the operator to seek a permit and thereby exercise requisite control. In practice this means that where a discharge to land is in the vicinity of a drinking water abstraction, the Environment Agency may serve a notice requiring that the operator should seek a permit for the discharge.
- A.3.7** Following earlier Government guidance, the Environment Agency currently designates as a minimum all Zone 1 Source Protection Zones under its

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<sup>19</sup> <http://www.defra.gov.uk/environment/policy/permits/documents/ep2010waterdischarge.pdf>

<sup>20</sup> Available from: [www.environment-agency.gov.uk/epr](http://www.environment-agency.gov.uk/epr)

Groundwater Protection Policy <sup>21</sup> as areas protected for drinking water abstraction for the purposes of the GWD (this is in accordance with guidance previously issued to the Environment Agency on the implementation of the 1998 Regulations). Within Zone 1 small domestic sewage effluent discharges are not exempt from the GWD and require a permit. Outside Zone 1 such discharges are exempt from permitting. It is anticipated that this practice would continue, such that small domestic sewage effluent discharges outside Zone 1 will need to be registered by 1 January 2012 and it will be for the Environment Agency to decide whether a permit is required or not.

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<sup>21</sup> The Inner groundwater Source Protection Zone which is a minimum radius of 50 metres from the abstraction source or a 50 day travel time in the saturated zone, whichever is the larger. Maps showing the location of protection zones for major potable abstractions can be found on the Agency's website.

# Scope of Registration

## What is a 'small sewage effluent groundwater activity'?

- A.3.8** A small sewage effluent groundwater activity relates to the discharge from a septic tank<sup>22</sup> or sewage treatment plant (also termed 'package treatment plants') of sewage effluent that results or may result in the input of pollutants to groundwater.
- A.3.9** For further definition of the scope of groundwater activities refer to Chapter 3, paragraphs 3.1-3.10.

## Conditions for registration

- A.3.10** A small sewage effluent groundwater activity is as an exempt facility if it meets the following requirements:
- it falls within the relevant description in Schedule 3;
  - it meets specific qualifying conditions relating to location, design and operation;
  - the activity is registered; and
  - it does not cause pollution.
- A.3.11** The descriptions and conditions are set out in Part 3 of Schedule 3 to the Regulations.

## Preventing environmental pollution

- A.3.12** It is the occupier's responsibility to register for an exemption for the small sewage effluent groundwater activity and to ensure that the treatment system is operated in such a way that it does not cause pollution of the environment.
- A.3.13** Carrying on a groundwater activity is an offence under the Regulations if it is:
- not registered or not permitted;
  - non-compliant with the terms of the registration; or
  - non-compliant with the terms of an environmental permit.

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<sup>22</sup> A septic tank is a two or three chamber system, which retains sewage from a property for sufficient time to allow the solids to form into sludge at the base of the tank, where it is partially broken down. The remaining liquid in the tank then drains from the tank by means of an outlet pipe. A cesspool or cesspit is a covered watertight tank used for receiving and storing sewage and has no outlet. It relies on road transport for the removal of raw sewage and is therefore the least sustainable option for sewage disposal. Because of this, a cesspool is best regarded as a temporary measure pending a more satisfactory solution, such as the provision of mains drainage. It is essential that a cesspool is, and remains, impervious to the ingress of groundwater or surface water and has no leaks.

## Protection of sensitive environmental receptors

- A.3.14** Small discharges of sewage effluent must not interfere with sensitive environmental, groundwater or conservation interests.
- A.3.15** The Environment Agency guidance may specify minimum distances between the place of discharge and known sensitive receptors. Where information is held by the Environment Agency, it will develop a system to check the suitability of the place of the discharge activities as part of the registration process.

## Registering an exempt facility

- A.3.16** The Regulations identify the types of activities that can be exempt: see Part 3 of Schedule 3.
- A.3.17** The registration will remain valid so long as the activity is carried on in accordance with the terms and conditions of the registration, including the maximum daily volume. The sewage treated must be domestic in origin and contain no trade effluent as defined in Section 221 of the Water Resources Act 1991<sup>23</sup>.
- A.3.18** A person who is unable to comply with these conditions may still be able to carry on the activity subject to application and determination of a permit (see Chapter 4, paragraph 4.35).

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<sup>23</sup> See: [www.opsi.gov.uk/acts/acts1991/Ukpga\\_19910057\\_en\\_1](http://www.opsi.gov.uk/acts/acts1991/Ukpga_19910057_en_1)

# Procedures for Registration

## Notification of relevant particulars

**A.3.19** An occupier must notify the Environment Agency of the relevant particulars relating to that activity in the format specified<sup>24</sup>. The notification should include:

- the name and address of the occupier;
- a description of the small sewage effluent groundwater activity; and
- the place of the activity including either the postcode or the Ordnance Survey National Grid reference.

**A.3.20** There is no fee for the registration of a small sewage effluent groundwater activity as an exempt facility.

**A.3.21** The Environment Agency will assess whether the small sewage effluent groundwater activity is suitable for registration. It may refuse to register activities to ensure that discharges do not adversely affect sensitive environmental receptors. The Environment Agency will notify the occupier within fifteen working days if the activity is not considered to meet the qualifying conditions.

**A.3.22** The Environment Agency will provide detailed guidance on registering a small sewage effluent groundwater activity and the criteria for refusal to register.

## Other Requirements

**A.3.22** The Environment Agency must be notified when the exempt facility ceases operation. The works and equipment for treating and discharging must be appropriately decommissioned.

**A.3.23** When an occupier ceases to occupy land on which the exempt facility is located, the occupier must notify the next occupier of the land of the location of the exempt facility. This notice must describe the exempt facility, state the conditions of the exemption, and must be accompanied by the records of maintenance carried out during the preceding five years.

**A.3.24** Once registered, change of occupier need not be notified to the Environment Agency, as it already has a record of the location and nature of the discharges.

## Register of exempt facilities

**A.3.25** The Environment Agency must maintain a register of exempt facilities and it must put the details of registration on to the register within fifteen working days of receiving the information.

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<sup>24</sup> See [www.environment-agency.gov.uk/epr](http://www.environment-agency.gov.uk/epr)

- A.3.26** If the Environment Agency becomes aware that an exempt facility is no longer in operation, or no longer qualifies to be exempt, the entry must be removed from the register and the occupier notified without delay.

### Design and manufacturing standards for new installations

- A.3.27** Works and equipment used for the treatment of small discharges of sewage effluent (“sewage treatment systems”) must comply with British<sup>25</sup> and European design and manufacturing standards in force at the time of installation. The standards are set out in the Environment Agency’s guidance<sup>26</sup>.
- A.3.28** Sewage treatment systems that are not designed or constructed to the relevant British Standard may be available in the UK. Any small sewage effluent discharge activities using such treatment systems cannot be registered as exempt facilities, and an environmental permit will be required (see Chapter 3, paragraph 3.17).

### Siting and installation controls for new installations

- A.3.29** The sewage treatment system must be sited and installed in accordance with any relevant planning and building controls (see below). New installations should not be sited where they can impact on drinking water supplies. As noted in A.3.7, all proposed installations within Zone 1 of the Environment Agency’s Groundwater Protection Policy (a minimum of 50m from any drinking water supply) would require an environmental permit as they would not qualify for an exemption. This continues the requirement that existed under previous legislation.
- A.3.30** Connection to foul sewer should be made where the small sewage effluent discharge activity is carried on within a public sewer area, or if it is reasonable to connect to it at the time when the notification of relevant particulars is made.
- A.3.31** It will not normally be possible to register as an exempt facility a small sewage effluent discharge activity that is within a public sewer area. Occupiers who are unable to connect to the public foul sewer or register their activity must apply for an environmental permit. Permits may be granted where there are sustainability benefits or cost and practicality prohibit connection to the foul sewer.
- A.3.32** Further details of the siting and installation requirements are set out in the Environment Agency’s technical guidance.

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<sup>25</sup> including industry standards for water companies that are recognised by OFWAT

<sup>26</sup> See [www.environment-agency.gov.uk/epr](http://www.environment-agency.gov.uk/epr)

## Design, manufacturing and siting standards for small sewage effluent discharges existing on 6 April 2010

**A.3.33** Special circumstances apply for small sewage effluent discharge activities in operation prior to 6 April 2010. They are that:

- sewage treatment plants will not be required to comply with the current British design Standard, but must be designed in accordance with the requirements available at the time of installation;
- the activities can be registered even if they are in a public sewered area, where they satisfy the other qualifying conditions;
- sewage treatment plants are not required to comply with the existing British siting and installation Standards, but must be sited and installed in accordance with any other requirements available at the time of their installation; and
- the activities can be registered where they satisfy the other qualifying conditions.

**A.3.34** Existing small sewage effluent groundwater activities that were previously permitted (under the Groundwater Regulations 2009) and qualify for registration will be taken to be exempt facilities from 6 April 2010. The owner or occupier will not need to register them again (Regulation 74(2)).

## Operation and maintenance requirements

**A.3.35** All sewage treatment systems require ongoing maintenance to ensure that they operate satisfactorily and that the discharges do not cause environmental pollution. Occupiers must follow the manufacturer's specific instructions or general industry standards identified within the industry codes of practice (see paragraphs A3.41 – A3.45).

**A.3.36** Regular maintenance must be carried out in accordance with manufacturers' instructions and using maintenance operatives who are competent to service the system. This includes any maintenance agreement with an authorised servicing company. The UK and Welsh Assembly Governments welcome the training and certification schemes developed by British Water<sup>27</sup> (for service engineers of small wastewater treatment systems). It encourages the development of further such schemes.

**A.3.37** Sewage treatment systems must be desludged on a frequency recommended by the manufacturer or industry code of practice. Any waste material must be removed and disposed of in an appropriate and controlled manner, using authorised disposal contractors.

**A.3.38** Further details of the operation and maintenance requirements are set out in the Environment Agency's guidance.

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<sup>27</sup> Details of this scheme: [www.britishwater.co.uk/ptp\\_engineers/Accredited\\_Service\\_Engineers.aspx](http://www.britishwater.co.uk/ptp_engineers/Accredited_Service_Engineers.aspx)

## Occupiers' record-keeping

- A.3.39** Adequate records must be kept to demonstrate that the sewage treatment system is being appropriately maintained. Maintenance engineers and contractors may provide this type of service as part of a maintenance service contract.
- A.3.40** Maintenance records should be kept for at least five years following the maintenance. These should show that the maintenance requirements issued by the manufacturer or relevant industry code of practice have been complied with.

# Other Requirements

## Application of industry agreed codes of practice

- A.3.41** The England and Welsh Assembly Governments recognise the very useful industry codes of practice written by the UK package sewage treatment plant and septic tank manufacturers and installers. These codes of practice are available for download from British Water's website<sup>28</sup> or by emailing [eppadministrator@defra.gsi.gov.uk](mailto:eppadministrator@defra.gsi.gov.uk).
- A.3.42** These codes provide practical guidance on the installation, management and maintenance of sewage treatment units and complement manufacturers' operational instructions. Where issued, these codes must be followed in conjunction with any manufacturer's instructions.
- A.3.43** Demonstrating an occupier has followed a relevant code of practice will be considered as a contribution to compliance with the registration. Manufacturers' instructions, where available, will take precedence over codes of practice.

## Relationship with other legislation and regulators

- A.3.44** Several local authority functions have a regulatory responsibility for the management of small sewage effluent groundwater activities. England and Welsh Assembly Government guidance on the relationship between local authority planning and pollution control is set out in Planning Policy Statement 23<sup>29</sup> and Planning Policy Wales<sup>30</sup>.
- A.3.45** Local authority building control and environmental health functions have a responsibility for enforcement of the siting, installation and operation of the systems in relation to Building Regulations and Public Health legislation. Local authority trading standards have a responsibility to ensure sewage treatment systems supplied for sale in the UK comply with the EU Construction Products Directive<sup>31</sup>. The Directive sets out design standards for treatment efficiency and performance, water tightness and durability in order to protect human health and the wider environment.

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<sup>28</sup> Available from [www.britishwater.co.uk/publications/publications\\_and\\_technical\\_guides.aspx](http://www.britishwater.co.uk/publications/publications_and_technical_guides.aspx)

<sup>29</sup> See:

[www.communities.gov.uk/planningandbuilding/planning/planningpolicyguidance/planningpolicystatements/planningpolicystatements/pps23](http://www.communities.gov.uk/planningandbuilding/planning/planningpolicyguidance/planningpolicystatements/planningpolicystatements/pps23)

<sup>30</sup> <http://wales.gov.uk/topics/planning/policy/ppw2002/?lang=en>

<sup>31</sup> <http://ec.europa.eu/enterprise/construction/internal/cpd/cpd.htm>

# Annex 3 – Registration of Exempt Groundwater Activities Part 2: Discharges of small quantities for scientific purposes

## Introduction

- A.3.46** This guidance is aimed at those regulating discharges of small quantities of substances to ground as part of a specified groundwater remediation scheme or groundwater tracer test and those who are making such discharges.
- A.3.47** Before a groundwater activity described in Part 3 of Schedule 3 to the Regulations can be registered as exempt, it must meet the relevant conditions set out in that Part.
- A.3.48** The relevant conditions to be met by a groundwater activity involving the discharge of small quantities of substances to ground as part of a specified groundwater remediation scheme or a groundwater tracer test are described below. Further detail is set out in technical guidance to be provided by the Environment Agency.

## What is a specified groundwater remediation scheme or groundwater tracer test?

- A.3.49** The term “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 contaminants.
- A.3.50** The term “groundwater tracer test” means a below ground study of the behaviour or movement of water or a contaminant. It involves the addition to groundwater of a distinguishable material<sup>32</sup> whose properties suitably represent the contaminant or water being studied.

## Conditions for registration

- A.3.51** The discharging of small quantities of substances to ground as part of a specified groundwater remediation scheme or a groundwater tracer test may be registered as an exempt activity if it meets the following requirements:

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<sup>32</sup> Specific tracers are defined in technical guidance to be provided by the Environment Agency. They include a wide range of substances including radioactive substances.

- 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.

**A.3.52** The descriptions and specific qualifying conditions are set out in Paragraph 2 of Part 3 of Schedule 3 to the Regulations and are:

- that a water features survey has demonstrated that the discharge will not cause pollution;
- that the prior consent of every person having a right to abstract water in the vicinity of the discharge has been obtained;
- that the exemption registration authority is notified before the commencement of the discharge;
- that in the case of discharges as part of a specified groundwater remediation scheme, monitoring of the discharge, to determine whether pollution has been caused, is undertaken.

In addition, the descriptions and specific qualifying conditions will be set out in greater detail in technical guidance to be provided by the Environment Agency.

**A.3.53** It is the operator's responsibility to ensure that the discharge complies with the requirements set out in the registration.

**A.3.54** If the discharge of substances for the purposes of remediation or tracing does not meet the requirements for registration the operator must obtain a permit for the discharge.

### **Notification of relevant particulars**

**A.3.55** Any operator discharging small quantities of substances to ground as part of a specified groundwater remediation scheme or a groundwater tracer test must notify the Environment Agency of the relevant particulars relating to that discharge in the format specified<sup>33</sup>. The notification should include:

- the name and address of the operator;
- a description of the groundwater activity;
- the date it is proposed to carry on the activity; and
- the place where the activity is to be carried on, including the postcode or Ordnance Survey National Grid reference.

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<sup>33</sup> See [www.environment-agency.gov.uk/epr](http://www.environment-agency.gov.uk/epr)

- A.3.56** Providing the proposed groundwater activity meets the requirements for registration, the activity can be registered as an exempt groundwater activity.
- A.3.57** Notification to the Agency must take place at least fifteen working days before the date it is proposed to begin carrying on the activity.
- A.3.58** The Environment Agency will assess whether the activity is suitable for registration. It may refuse to register activities to ensure that discharges do not adversely affect sensitive environmental receptors, including waters abstracted for domestic consumption, food production or public water supply. The Environment Agency will notify the occupier within fifteen working days if the activity is or is not considered to meet the qualifying conditions.
- A.3.59** The Environment Agency will provide detailed guidance on registering these activities and the criteria for refusal to register.

### **Register of exempt discharges**

- A.3.60** The Environment Agency must:
- maintain a register of exempt groundwater activities, and
  - if it agrees that an activity can be registered as exempt, put the details of registration on to the register as soon as practicable.

### **Operators' record-keeping**

- A.3.61** The operator must keep adequate records to demonstrate that the groundwater activity is being carried on in accordance with the conditions for registration.