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WAT 1_09

Consultation on Environmental Permitting Guidance

**Technical Guidance for the Registration of Small sewage effluent
discharges**

21 December 2009

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1. INTRODUCTION

The discharge of domestic sewage effluent from a small septic tank or sewage treatment plant (termed a 'small sewage effluent discharge') can be registered as exempt from the requirement for a permit under the Environmental Permitting (England and Wales) Regulations 2010 provided that the installation meets certain conditions. The conditions ensure that all works and equipment used for the treatment of domestic sewage effluent have been designed, sited and installed correctly, and maintained to an appropriate standard.

Where a small sewage effluent discharge cannot be registered as an exempt discharge, the 'occupier', or person responsible for the discharge, must apply for a full permit under the regulations.

1.1. Who is this guidance for?

The technical guidance contained in this document is primarily applicable to manufacturers, installers and maintenance engineers and others involved in siting, design and maintenance of discharges from individual households and small communities.

The technical guidance may be of interest to occupiers, who are required to register their discharge under Schedule 2 and 3 of the Environmental Permitting Regulations. However, a summary guide for occupiers will also be produced to support the registration of small discharges.

These documents will also be relevant to those who have a responsibility for the operation and management of discharges from septic tanks and sewage treatment plants.

1.2. About this guidance

The term 'small sewage effluent discharge' covers the discharge or entry into surface waters ¹ or groundwater from a small septic tank and sewage treatment plant.

The document contains siting and installation requirements, and includes details of screening distances that we apply, to protect environmentally sensitive areas.

The document also includes reference to British Standards and recognised industry codes of practice. These supporting documents will assist dischargers to operate and maintain the exempt facility in accordance with the requirements set out in the technical guidance or those directly specified in the regulations.

This technical guidance complements government guidance issued in Annex 3 to the Environmental Permitting Regulations for registration of exempt water discharge and groundwater activities relating to small discharges of sewage effluent.

¹ inland freshwater, coastal water, relevant territorial water or groundwater as defined in section 104 of the Water Resources Act 1991

1.3. Scope of registration

An occupier of land on which an exempt small sewage effluent discharge is in operation must notify us of the relevant particulars relating to that discharge in the format specified. The notification should include:

- the name and address of the occupier;
- a description of the small sewage effluent discharge; and
- the place and postcode, or National Grid Reference, of the activity.

We will provide detailed guidance on the notification procedures for registering a small sewage effluent discharge following the end of the consultation process.

There is no fee for the registration of a small discharge activity as an exempt facility.

We will assess whether the discharge is suitable for registration. We may refuse to register a discharge where the activity will adversely affect the environment or human health. If you cannot comply with the conditions for registration, you may need to apply for a full permit under the Environmental Permitting Regulations or find an alternative method for effluent disposal.

Special circumstances will apply to small sewage effluent discharges that are already in operation and working satisfactorily prior to the introduction of the regulations.

1.4. How to use this guidance

By following the guidance set out in this document, dischargers can demonstrate compliance with the regulations and ensure that the discharge is operated in a manner that reduces the risk of pollution.

Whilst we have taken care to avoid any conflict between documents, should there be any doubt; the information provided in the government guidance takes precedent over any other form of guidance

During the consultation period, the draft government guidance and draft Environmental Permitting Regulations can be accessed from the Defra web site at <http://www.defra.gov.uk/environment/policy/permits/index.htm>

2. REQUIREMENTS FOR REGISTRATION OF EXEMPT WATER AND GROUNDWATER ACTIVITIES

It is the occupier's responsibility to register the discharge as an 'exempt facility' and comply with the conditions for registration.

Existing discharges

Most operators of existing septic tanks and sewage treatment plants will not need to make changes to their disposal. However, registration is conditional on operating to good practice to avoid pollution.

Existing discharges that were previously consented (under the Water Resources Act 1991) and qualify for registration will be taken to be an exempt facility from April 2010 and will not need to be registered

A summary of the conditions for new and existing systems is set out in Table 1. All new discharges, installed after 6 April 2010 must meet the full installation and operating conditions identified in this technical guidance.

Timetable for registration

The timetable for registration of exempt facilities is given in Table 2.

Table 2 Timetable for registration of exempt facility

	Discharge to surface water from a sewage treatment plant	Discharge to groundwater from a septic tank or sewage treatment plant
Sewage treatment plant discharge	5m ³ per day or less	2m ³ per day
Registration date	From 6 April 2010	By 1 January 2012

Table 1. Summary of the conditions for registering an exempt water and groundwater discharge activity

Description of activities	Summary of conditions for registration of an exempt facility for a discharge to inland freshwater, coastal waters, or relevant territorial waters
<p>A new discharge to surface water:</p>	<ol style="list-style-type: none"> 1. The occupier should have obtained any relevant planning and building control approval before seeking registration of an exempt discharge activity 2. The maximum daily volume of the discharge shall be 5 cubic metres or less per day as calculated by the method specified in the industry Code of Practice: "Flows and Loads 3" 3. The sewage shall be solely domestic in origin and contain no trade effluent 4. Prior to the discharge, the sewage must have received treatment from a sewage treatment plant designed and constructed according to the relevant British Standard design requirements in force at the time of installation, (currently BSEN 12566:2005 (part 3)) and sized in accordance with industry Code of Practice: "Flows and Loads 3" 5. The discharge must not be within 30 metres of a public foul sewer 6. The sewage treatment plant must be installed and operated in accordance with the manufacturer's specification issued at the time of installation or to the guidance given in the appropriate industry operating Code of Practice 7. The location of a new discharge must be further than 200 metres from a designated European site, Ramsar site, Site of Special Scientific Interest (SSSI) or any locally identified protected species 8. The discharge must be made to a watercourse that has a flow of water throughout the year 9. Drainage systems incorporating a partial infiltration system or drainage field prior to discharge to surface waters must include a package sewage treatment plant and the drainage field must be installed within 10 metres of the bank side of the watercourse 10. In tidal locations the outlet from a direct discharge must be below the Mean Low Water Springs (MLWS) tide mark 11. The location of a new discharge must be further than 50 metres of an identified bathing water or a designated shellfishery 12. The sewage treatment system shall be operated and maintained in accordance with a maintenance plan as specified within the manufacturers maintenance instructions or other maintenance schedule adopted by the occupier, or manufacturing industry Code of Practice guides 13. Maintenance should be undertaken by those who are competent in respect of the responsibilities to maintain and service the sewage treatment system

	<ol style="list-style-type: none"> 14. Waste sludge removed from the sewage treatment system must be safely disposed of in an appropriate or controlled manner, using competent disposal contractors 15. Records demonstrating compliance with the maintenance and desludging requirements shall be in a legible format and retained for at least 5 years from the date when the records were made. 16. The discharge must not cause pollution of surface or groundwater
<p>Existing discharge to surface water</p>	<ol style="list-style-type: none"> 1. The maximum daily volume of the discharge shall be 5 cubic metres or less per day as calculated by the method specified in the package plant and installer industry Code of Practice: "Flows and Loads 3" 2. The sewage shall be solely domestic in origin and contain no trade effluent 3. Prior to the discharge, the sewage must have received treatment from a sewage treatment plant producing an effluent of suitable quality to prevent pollution of controlled waters and designed and constructed according to the relevant British Standard design requirements in force at the time of installation 4. The sewage treatment plant must be installed and operated in accordance with the manufacturer's specification issued at the time of installation or to the guidance given in the appropriate industry operating Code of Practice 5. In tidal locations the outlet from a direct discharge must be below the Mean Low Water Springs (MLWS) tide mark 6. The sewage treatment system shall be operated and maintained in accordance with a maintenance plan as specified within the manufacturers maintenance instructions or other maintenance schedule adopted by the occupier or manufacturing industry Code of Practice guide 7. Maintenance should be undertaken by those who are competent in respect of the responsibilities to maintain and service the sewage treatment system 8. Waste sludge removed from the sewage treatment system must be safely disposed of in an appropriate or controlled manner, using competent disposal contractors 9. Records demonstrating compliance with the maintenance and desludging requirements shall be in a legible format and retained for at least 5 years from the date when the records were made. 10. The discharge must not cause pollution of groundwater or surface water
<p>Description of activities</p>	<p>Summary of conditions for registration of an exempt facility for a discharge entering groundwater</p>

A new discharge to groundwater:

1. The occupier should have obtained any relevant planning and building control approval before seeking registration of an exempt discharge activity
2. The maximum daily volume of the discharge shall be 2 cubic metres or less per day, as calculated by the method specified in the septic tank and sewage treatment plant manufacturer's and installer industry Code of Practice "Flows and Loads 3"
3. The sewage shall be solely domestic in origin and contain no trade effluent
4. Prior to the discharge, the sewage must have received adequate treatment from a septic tank or sewage treatment plant designed and constructed according to the relevant British Standard design requirements in force at the time of installation, (currently BSEN 12566) and sized in accordance with the septic tank and sewage treatment plant manufacturer's and installer industry Code of Practice "Flows and Loads 3"
5. The discharge must not be within 30 metres of a public foul sewer
6. The discharge outlet from the treatment system must be installed in accordance with the British Standard BS 6297 siting and installation requirements in force at the time of installation, currently BS 6297:2007+A1:2008
7. Discharges entering ground can only be made to a self contained infiltration system or drainage field without any observable discharge into surface waters
8. The sewage treatment system must be installed and operated in accordance with the manufacturer's specification issued at the time of installation or to the guidance given in the appropriate septic tank and package sewage treatment plant industry operating Code of Practice
9. The location of a new discharge to groundwater must be further than 50 metres from a permitted water supply, Source Protection Zone 1 or other source of private water supply.
10. The location of a new discharge must be further than 50 metres from a designated European site, Ramsar site, Site of Special Scientific Interest (SSSI) or any locally identified protected species
11. The sewage treatment system shall be operated and maintained in accordance with a maintenance plan as specified within the manufacturer's maintenance instructions or other maintenance schedule adopted by the occupier or manufacturing industry Code of Practice guide
12. Maintenance should be undertaken by those who are competent in respect of the responsibilities to maintain and service the treatment system
13. Waste sludge removed from the sewage treatment system must be safely disposed of in an appropriate or controlled manner, using competent disposal contractors
14. Records demonstrating compliance with the maintenance and desludging requirements shall be in a legible format and retained for at least 5 years from the date when the records were made.

<p>Existing discharge to groundwater</p>	<p>15. The discharge must not cause pollution of groundwater or surface water</p> <ol style="list-style-type: none"> 1. The maximum daily volume of the discharge shall be 2 cubic metres or less per day, as calculated by the method specified in the package sewage treatment plant and septic tank manufacturer's and installer industry Code of Practice "Flows and Loads 3" 2. The sewage shall be solely domestic in origin and contain no trade effluent 3. Prior to the discharge, the sewage must have received adequate treatment from a septic tank or sewage treatment plant designed and constructed according to the relevant British Standard design requirements in force at the time of installation 4. The infiltration or drainage field must be installed in accordance with the British Standard BS 6297:2007+A1:2008) siting and installation requirements 5. Discharges entering groundwater can only be made to a self contained infiltration system or drainage field without any observable discharge into surface waters 6. The sewage treatment system must be installed and operated in accordance with the manufacturer's specification issued at the time of installation or to the guidance given in the appropriate package plant, septic tank and installer industry operating Code of Practice 7. The location of a discharge to groundwater must be further than 50 metres from a permitted water supply, Source Protection Zone 1 or other source of private water supply. 8. The sewage treatment system shall be operated and maintained in accordance with a maintenance plan as specified within the manufacturer's maintenance instructions or other maintenance schedule adopted by the occupier: with regard to the manufacturing industry Code of Practice: A guide for users of small wastewater treatment systems for package sewage treatment plants and septic tanks 9. Maintenance should be undertaken by those who are competent in respect of the responsibilities to maintain and service the treatment system 10. Waste sludge removed from the sewage treatment system must be safely disposed of in an appropriate or controlled manner, using competent disposal contractors 11. Records demonstrating compliance with the maintenance and desludging requirements shall be in a legible format and retained for at least 5 years from the date when the records were made. 12. The discharge must not cause pollution of groundwater or surface water
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Note that during the consultation process it is our intention to revise the layout of the registration conditions to present those conditions that will be generic for all discharges and those that relate to specific types of discharge.

2.1. Description of the discharge

2.1.1. Type of discharge

Discharges of domestic sewage effluent to surface waters require treatment by a package sewage treatment plant.

Discharges to groundwater through an infiltration system or drainage field require treatment from either a septic tank or sewage treatment plant. The type of treatment system will depend upon the suitability of the site and the need to protect sensitive environmental features. This decision may be influenced by planning and building control requirements.

2.1.2. Design capacity and maximum daily volume

The design capacity of the sewage treatment system will depend upon the nature of the use, and the number of people using the system. This information will be required by the equipment manufacturer or supplier to identify the maximum volume of effluent that will be discharged. This information is also needed by us for registration of the exempt facility.

Registration Condition:

The maximum daily volume of a discharge of sewage effluent from a package sewage treatment plant to inland freshwater, coastal waters, or relevant territorial waters must not exceed 5 cubic metres per day.

The maximum daily volume of a discharge of sewage effluent from a septic tank or sewage treatment plant to groundwater through an infiltration system or drainage field must not exceed 2 cubic metres per day.

The maximum daily volume must be calculated through the formula specified within the septic tank and sewage treatment plant manufacturer's code of practice *Flows and Loads 3 Sizing Criteria and Treatment Capacity for Sewage Treatment Systems*.

Alternative methods of calculating design capacity and maximum daily volume may be available for particular types of discharge but cannot be used for registration of exempt facility. These will require submission of an application for a permit.

2.1.3. Defining a domestic discharge

For registration, sewage must be just domestic in origin and contain no trade effluent (as defined in Section 221 of the Water Resources Act 1991).

Registration Condition:

The notification must include confirmation that the discharge contains only domestic sewage and contains no trade effluent.

2.2. Application of industry agreed codes of practice

The UK septic tank and sewage treatment plant manufacturers and installers have produced a range of industry codes of practice which have been recognised by government and UK environmental and other regulators as industry best practice.

These codes provide practical advice and guidance with regard to the installation, management and maintenance of sewage treatment units and are complementary to the manufacturer's operational instructions. Where these codes of practice are issued, they must be followed in conjunction with any manufacturer's instructions.

The codes of practice are available to download from British Water's web site: www.britishwater.co.uk/publications (see [publications and technical guides](#))

The codes currently include:

- **A Guide for Users of Sewage Treatment Systems**
- **Flows and Loads 3 Sizing Criteria and Treatment Capacity for Sewage Treatment Systems**
- **Guide to the Installation of Sewage Treatment systems**
- **A Guide to the Maintenance Requirements for Sewage Treatment Systems (under development)**
- **Guide to the Desludging of Sewage Treatment Systems**

Demonstrating an occupier has followed a relevant code of practice will be considered as a contribution to compliance with the registered exemption. To avoid any confusion, manufacturer's specific instructions, where available, will take precedent over codes of practice.

2.3. Other operating requirements

Septic tanks and sewage treatment plants can represent an effective and economical way of treating domestic sewage effluent from individual properties or small communities where connection to the public or other foul sewer is not possible. When designed and installed correctly, these systems will provide many years of service, but they must also be properly maintained to ensure continued operation. To register an exempt facility, all works and equipment used for the treatment and discharge of sewage effluent must meet certain requirements in relation to:

- **Siting and Installation Controls**
- **Design and Manufacturing Standards**
- **Operation and Maintenance Requirements**

The requirements for these conditions are set out in schedule 3 of the regulations (part 2 paragraph 5(2) for surface water and part 3 paragraph 9 (2) for groundwater). Further details of these requirements will be covered in subsequent sections of this guidance document.

3. SITING AND INSTALLATION CONTROLS

The location and siting of a treatment system must not interfere with sensitive environmental, groundwater or conservation interests. Registration of small sewage effluent discharges will only be possible where the operation of the discharge is not considered to pose a risk of pollution to these sensitive receptors.

3.1. Planning the location of a discharge

Before installing a new sewage treatment system, applicants must contact the local planning authority to establish whether the siting and installation of the discharge needs additional planning or building controls. The local planning authority may require supporting information or site assessment (known as a Foul Drainage Assessment) in accordance with DETR Circular 03/99, (WO Circular 10/99). The assessment is intended to help establish sufficient information to allow the local authority to consider environmental, and other planning and building matters.

The DETR Circular and Building Regulations guidance documents outline a requirement for an adequate system of drainage to carry sewage and foul water from appliances within the building to one of the following, listed in order of priority:

public sewer

a private sewer connecting with a public sewer

either a sewage treatment plant or septic tank, with a discharge to a properly designed drainage field, discharging to controlled waters:

or a cesspool where no other option is available

As part of the registration process, the local planning authority may ask the applicant to consider the different connection options. Only where it can be demonstrated that the cost, practicability or sustainability preclude connection to the public foul sewer will alternative non mains drainage, including use of direct discharges to surface water or discharges to an infiltration system or drainage field, generally be considered acceptable.

3.1.1. Town and country planning and building control approval

We would expect those seeking registration of their sewage treatment system to have obtained relevant planning and building regulations approval, before applying for a registration.

The current Building Regulations in England and Wales (2000) are supported by Approved Document H2 (2002) guidance on meeting the requirements for drainage and wastewater disposal.

Registration Condition: Contact with the local planning authority should be undertaken **before** application for registration of an exempt discharge. To meet this requirement the occupier or person responsible for the exempt activity should confirm with the local authority whether it requires any relevant planning or building control approval.

3.1.2. Connection to the public foul sewer

Connection to the public foul sewer must be made where the discharge is within a public sewered area. Registration of a new discharge within a public sewered area is not possible.

Registration Condition: Discharges within 30 metres of an existing public foul sewer are considered to be within a public sewered area.

Occupiers of properties who are unable to connect to the public foul sewer or register an exempt discharge should apply for a permit to enable us to consider whether a discharge is appropriate.

You should note that permits are normally only granted where it can be clearly demonstrated that there are overall benefits for sustainability and there will be no environmental impact; and it is not feasible to connect to a public or other private foul sewer due to the cost and/or practicability.

3.1.3. How do I know if I am in a sewered area?

The local sewerage undertaker (normally the local Water Company) should be consulted to confirm whether a suitable connection can be made. Where the proposal is close to an existing public sewer, connection to the sewer is likely to be the most environmental and cost effective option and the option most likely to be required by the local authority through planning and building control functions.

3.1.4. Existing systems in a sewered area

Existing small sewage effluent discharges can be registered, even if they are located in a sewered area.

3.2. Protecting conservation interests

3.2.1. Designated European conservation sites

The Environment Agency and other statutory conservation bodies hold details of designated conservation sites. Details of some of these sites are maintained on our databases, which can be accessed using the Environment Agency web site at www.environment-agency.gov.uk [full link to be added]

The proposed screening distances from designated and identified conservation interests used to assess whether registration will be acceptable in these areas, is shown in Table 2.

Table 2 Proposed screening distances for conservation sites

Conservation designation including European sites	Proposed Screening Distances (metres) where registration is not possible for: Small sewage effluent discharges to groundwater	Proposed Screening Distances (metres) where registration is not possible for: small sewage effluent discharge to surface waters
Protected Species	50	200
Special Areas of Conservation (SAC) - England	50	200
Special Areas of Conservation (SAC) - Wales	50	200
Special Protection Areas (SPA) – England	50	200
Special Protection Areas (SPA) – Wales	50	200
Ramsar Sites – England	50	200
Ramsar Sites – Wales	50	200
Sites of Special Scientific Interest (SSSI) – England	50	200
Sites of Special Scientific Interest (SSSI) – Wales	50	200
National Nature Reserves – England	50	200
National Nature Reserves – Wales	50	200
Local Nature Reserves – England	50	200
Local Nature Reserves – Wales	50	200
Local Wildlife Sites	50	200
Ancient Woodland – England	50	200
Ancient Woodland – Wales	50	200
Scheduled Ancient Monuments – England	50	200
Scheduled Ancient Monuments – Wales	50	200
Oligotrophic (nutrient sensitive) Lakes (these are subject to development in conjunction with partner conservation organisations)	50	200

“European Site” means candidate or Special Area of Conservation and Special Protection Area in England and Wales, within the meaning of Council Directives 79/409/EEC on the conservation of wild birds and 92/43/EEC on the conservation of natural habitats and the Conservation (Natural Habitats &c) Regulations 1994. Internationally designated Ramsar sites and proposed special protected areas are dealt with in the same way as European sites as a matter of government policy and for the purpose of these rules will be considered as European sites.

3.2.2. Protection of other conservation interests

There may be other sites that contain protected species that are sensitive and covered by the Wildlife and Countryside Act 1981 – as amended by the Countryside Rights of Way Act 2000 which includes Sites of Special Scientific Interest (SSSI) and Areas of Outstanding Natural Beauty (AONB). Public bodies have a duty to have regard to conserving and enhancing the natural beauty of Areas of Outstanding Natural Beauty and these may be taken into account this when assessing a proposal for an exempt discharge activity.

3.2.3. Where to find information on conservation sites

You can access maps of these sites on Natural England website:

www.natureonthemap.org.uk/map.aspx

Natural England enquiries Service

For general enquiries

Tel: +44 (0)1733 455101

Fax: +44 (0)1733 455103

Email: enquiries@natural-england.org.uk

Search for Protected sites in Wales on the Countryside Council for Wales website:

www.ccw.gov.uk/protected_sites/

**Countryside Council for Wales Maes-y-Frynnon,
Penrhosgarnedd,
Bangor,
Gwynedd
LL57 2DW**

For all general enquiries

Tel: 0845 1306229

Email: enquiries@ccw.gov.uk

For Areas of Outstanding Natural Beauty see www.aonb.org.uk/ or contact the Local Authority

Registration Condition: Site locations that fall within the screening distances defined for sensitive conservation areas cannot be registered as an exempt activity. Occupiers who wish to discharge within these locations must apply for a permit.

3.3. Protection of shellfish and bathing waters

We hold details of EC Directive designated Shellfish and Bathing Waters.

Controls are required to protect human health and the environment particularly in relation to faecal pollution and the risk of microbiological contamination.

Details of designated shellfish and bathing waters are maintained on our databases which you can access using our web site at www.environment-agency.gov.uk within 'whats in my back yard'.

Table 3 provides the proposed screening distances for the protection of designated bathing and shellfish waters.

Table 3. Proposed screening distances for shellfish and bathing waters

Environmental interest EC designation Bathing and Shellfish Waters	Proposed Screening Distances (metres) where it is not possible to register: small sewage effluent discharge to groundwater	Proposed Screening Distances (metres) where it is not possible to register: small sewage effluent discharge to surface waters
Shellfish water	NA	50
Bathing Waters-England	NA	50
Bathing Waters- Wales	NA	50

Site locations that fall within the screening distances defined for shellfish or bathing waters cannot be registered as an exempt activity. Occupiers who wish to discharge within these locations must apply for a permit

Registration Condition: In tidal areas, the discharge outfall must be located below the Mean Low Water Springs (MLWS) tide limit.

Discharges to tidal waters with outlets above MLWS tide limit cannot be registered as an exempt activity and applicants must apply for a permit.

3.4. Groundwater protection

Groundwater is hidden from view, yet it is a vital resource that supports our lives and environment. It provides water to maintain sustainable rivers, wetlands and water supplies and tap water for 16 million people across England and Wales. It is also economically important for both industry and agriculture.

We are the statutory body responsible for the protection and management of groundwater resources in England & Wales.

3.4.1. Protection of groundwater abstractions

It has been possible to define the source catchment and protection areas for many of the more significant public and private water supply boreholes in the country.

These are known as Source Protection Zones (SPZs). These are:

- Zone I (Inner Source Protection);
- Zone II (Outer Source Protection);
- Zone III (Source Catchment).

Generally the closer a polluting activity or release is to a groundwater source the greater the risk of pollution. Zone 1 (inner protection zone) represents the area of greatest risk.

Zone I (Inner Protection Zone) is defined by a travel time of 50-days or less for pollutants to move from any point within the zone at, or below, the water table. Additionally, the zone has as a minimum a 50-metre radius. It is based principally on biological decay criteria and is designed to protect against the transmission of toxic chemicals and water-borne disease.

Information and maps showing Source Protection Zones can be viewed on our web site at <http://maps.environment-agency.gov.uk/wiyby/wiybyController?x=357683.0&y=355134.0&scale=1&layerGroups=default&ep=map&textonly=off&lang=e&topic=drinkingwater>

Around 2000 of the public and larger commercial water supplies have designated source protection zones. However, there are many smaller groundwater sources that provide drinking water for isolated or very small communities. For these sources a default value of 50 m as a SPZ1 will apply.

The vast majority of private water supplies in the UK will be regulated by the local authority environmental or consumer health departments, although it is possible that some sources continue to be used for drinking water but are unregulated by the local authority.

In order to register an exempt activity the discharger must confirm they have made sufficient checks to establish whether any private water supplies are located close to the discharge. This would include contact with all properties within 50 metres of the point of discharge.

Registration Condition: The discharge cannot be registered as exempt if the groundwater discharge activity is located within 50 metres of a Source Protection Zone 1. A default Source Protection Zone 1 of 50m radius applies to any groundwater source used for human consumption, including all private water supplies, where a Source Protection Zone has not been delineated.

If you wish to discharge within the Source Protection Zone 1 (SPZ 1) or within 50 metres of any other groundwater source used for human consumption, you must apply for a permit.

3.5. Installing septic tanks, sewage treatment plants and drainage fields

The incorrect installation of sewage treatment equipment may result in inefficient operation of the system or cause pollution.

Manufacturer's should provide clear installation instructions when they supply the equipment. Often the process warranty supplied with the unit requires the system to be installed by a competent installation engineer.

You should follow the industry standard Code of Practice for the installation of small sewage treatment systems including septic tanks and package sewage treatment plants and any local authority building regulations requirements.

3.5.1. Discharges to ground through an infiltration system or drainage field

You must ensure that the environmental risks of the proposed discharge to ground have been considered in accordance with British Standard BS 6297.

BS 6297:2007+A1:2008 (or subsequent amendments) are a completely revised British Standards Code of Practice providing recommendations and guidance on the design and installation of foul drainage infiltration systems for use in wastewater (sewage) treatment. This Standard replaces the previous Standard, (BS 6297:1983) which has now been withdrawn.

The Standard includes detailed information on preliminary site investigation and planning, construction of trial holes and percolation tests to ensure that the site is suitable for a discharge to ground. This includes guidance on how to undertake a survey of the immediate locality (often known as a Water Interest Survey) to help identify the location of any groundwater source that may be used as a source of drinking water

Registration Condition: Compliance with the current British Standard BS 6297 (2007+A1:2008) is required for all new discharges from package sewage treatment plants and septic tanks to infiltration drainage fields.

New discharges that cannot comply with BS 6297 (200+A1:2008) cannot be registered as an exempt activity and occupiers must apply for a permit

3.5.2. Discharge to surface waters from a package sewage treatment plant

Registration Condition:

The discharge must be made to a watercourse that has a flow of water throughout the year.

To install a partial infiltration system or drainage field prior to discharging to the watercourse, a package sewage treatment plant must be used and the drainage system must be sited no further than 10 metres from the bank of the watercourse.

4. DESIGN AND MANUFACTURING STANDARDS

Many package sewage treatment plants and septic tanks available within the UK market are designed, manufactured and pre-constructed as modular units in accordance with British or European design Standards.

The current design and construction British Standard (BSEN12566) incorporates the minimum European requirements for package treatment plants and septic tanks for up to 50 persons.

Those systems compliant with BSEN12566 have undergone extensive design, construction and, or performance testing according to British Standard requirements and are considered to be suitable for registration.

Other treatment systems which are not designed or constructed to the relevant British Standard may still be available for use in the UK. However, these discharges cannot be registered as an exempt discharge and their use will be subject to determination through a permit. The applicant will need to demonstrate that the sewage treatment system can operate to an equivalent level of performance to those tested under the relevant British Standard.

Confirmation of the unit's design and construction standards should be obtained through the manufacturer or supplier's warranty or sales literature.

The relevant parts of the British Standard are also available from British Standard distributors or may be available through your unit's manufacturing or supplier's warranty or sales literature.

4.1. New discharges

Registration Condition: Units for the treatment of domestic sewage in the UK should be designed and constructed in accordance with the relevant British Standard requirements in force at the time of installation.

From 06 April 2010, new or replacement units must be designed in accordance with:

- **BSEN 12566:2000 Part I prefabricated units**
- **BSEN 12566 :2007 Part IV for Septic Tanks assembled in situ from prefabricated units**
- **BSEN 12566:2005 Part III for package or site assembled domestic sewage treatment plants**

From 6 April 2010 new installations of package treatment plants and septic tanks not designed to BSEN 12566 cannot be registered. The application of non BSEN 12566 systems will be subject to determination of a bespoke permit.

4.2. Existing discharges

Registration Condition: Existing discharges installed prior to [06 April] 2010 should be designed and constructed in accordance with the relevant standards at the time of the initial installation. You must be able to confirm that the units continue to operate in accordance with the manufacturers operating instructions or relevant codes of practice that may be issued by the manufacturers through their trade association.

A list of package sewage treatment system manufacturers that may have undertaken testing of their units to BSEN 12566 standards are held by the UK manufacturer's Trade Association (British Water). British Water may be contacted at www.britishwater.co.uk

5. OPERATION AND MAINTENANCE REQUIREMENTS

All small discharge activities require regular maintenance and attention to ensure they continue to operate satisfactorily. Sewage treatment requires a stable environment to work well. Small systems should be protected against substances that might damage and kill the micro-organisms. Chemicals, oils, solvents, grease and paintbrush cleansing products should not be allowed to enter the system.

Most sewage treatment plants require a continual power supply.

Clean uncontaminated roof or surface water must not enter the system.

The system should be fully commissioned to the manufacturer's specification before being started.

There should be a formal handover from the installer to the user with instruction on the operation of the plant.

Purchasers or occupiers must ensure that the manufacturer's operation manual and maintenance requirements are fully described when transferring responsibility for the operation of the system.

5.1. Use of competent servicing engineers and personnel

Most treatment systems require professional servicing every 12 months with a detailed check every 6 months. This is necessary even in the first year when components are under warranty. Regular maintenance of the system must follow the manufacturer's instructions using service operators who are experienced in dealing with sewage treatment systems. This is often through a maintenance agreement with an authorised servicing company.

British Water has introduced a small wastewater treatment system service engineers training and certification scheme for its members. Details of this scheme are available at British Water:

www.britishwater.co.uk/ptp_engineers/Accredited_Service_Engineers.aspx.

We welcome this, and similar schemes, because we consider the use of trained and competent service engineer will significantly contribute to sustained improvements in operation of sewage treatment systems and reduce the potential for pollution from these sources.

Note, it will be a future aspiration to work with the manufacturing and servicing industry towards the formal recognition of this type of training and certification scheme, possibly through the use of our Monitoring Certification Scheme (MCERTs) or an equivalent process. An MCERT's scheme could provide formal recognition to maintenance personnel and provide confidence to dischargers that the equipment is being maintained by service personnel who are competent to undertake the role.

As part of this consultation process, we would like to consider whether maintenance conditions should include a requirement for servicing engineers and personnel to meet a recognised training standard.

Registration Condition: The sewage treatment system shall be operated and maintained:

- (a) in accordance with a maintenance plan as specified within the manufacturer's maintenance instructions or other maintenance schedule adopted by the occupier,
- (b) with regard to the manufacturing industry Code of Practice: A guide for users of small wastewater treatment systems for package sewage treatment plants and septic tanks, and
- (c) By persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the discharge.
- (d) Records demonstrating compliance with the maintenance requirements shall be retained for at least 5 years from the date when the records were made.

Routine checks

It is also important that routine daily, weekly and monthly checks are undertaken by the operator and the manufacturer should be able to suggest simple methods for checking correct operation.

Owners should obtain and check the manufacturer's or suppliers operating instructions for maintenance schedules and frequencies or use the general industry standards identified within the Code or Practice A guide for users of small wastewater (sewage) treatment systems for package sewage treatment plants and septic tanks. This code of practice is available from British Water www.britishwater.co.uk

5.2. Desludging the treatment system

All plants will require desludging by a competent contractor at intervals as recommended by the manufacturer or provided within the package plant and septic tank manufacturers and installers Code of Practice.

Further details are available in the manufactures Code of Practice: Guide to desludging of package sewage treatment systems and septic tanks. This code of practice is available from British Water www.britishwater.co.uk.

When you arrange for the disposal of your sewage sludge you have a legal and social obligation for its safe disposal, called the 'Duty of Care'. The duty of care requires you to take all reasonable steps to ensure the waste is correctly disposed of by an authorised person. This duty applies to all those involved in the handling the sludge waste, from the person who produced it to the person who finally disposes of it or uses the material.

You should ensure that you use a competent sludge disposal contractor to complete the sludge removal and disposal operation. The sludge removal contractor must be registered with us as a waste carrier and the material must be properly disposed of at a permitted waste reception facility or legitimate user of the material.

All authorised waste carriers that are registered with us should have a certificate of registration available for inspection.

You should also ensure you receive a transfer note from the sludge removal contractor which describes the quantity of the material and details of the person receiving the waste.

Further details of Duty of Care and registration of carrier's responsibilities can be obtained from us at www.environment-agency.gov.uk.

5.3. Record keeping

Adequate records must be kept to demonstrate that the treatment system is being appropriately maintained. Maintenance which will include details of servicing, desludging and repair work that has been undertaken on the system will be required to pass to the next occupier if you vacate or sell the property.

Registration Condition: All records should:
be legible;
be retained, for at least 5 years from the date when the records were made.