Legislative background to the Private Water Supplies Regulations 2009 Section 9(E&W)

of the Private Water Supplies: Technical Manual

April 2010

Private Water Supplies

Section 9(E)
Legislative background – England and Wales

Section contents

Foreword

This document gives the legislative background for the regulation of private water supplies in England and Wales (under the Private Water Supplies Regulations 2009 for England and the Private Water Supplies (Wales) Regulations 2010). It will be inserted into the *Private Water Supplies: Technical Manual* (www.privatewatersupplies.gov.uk) in section 9(E & W) 'Legislative background'. The Technical Manual is the UK's guidance document to assist professionals in regulating and maintaining private water supplies.

As this document covers England and Wales, the term 'Minister' is used to refer to the Secretary of State in England and Welsh Ministers in Wales.

This document was revised following a four week consultation period, (25 January to 22 February 2010). However, it will continue to be 'living guidance', which means it is designed to be used and commented on by professionals regulating private water supplies, to allow good practice and examples to be added in the future. This document will be published by the Drinking Water Inspectorate (DWI) and issued to the relevant regulators.

Any further amendment or addition to this guidance will be published on the on the DWI website (www.dwi.gov.uk) and can be printed off by local authorities to add in to in their paper version. However, please note that any printed version of this guidance will be an uncontrolled document. For the current version, please refer to the DWI website at www.dwi.gov.uk.

Document status

This document was first produced on 25 January 2010. Any future updates will be recorded on this page.

Version 2 was updated as part of the consultation ending on 22 February 2010 and published in April 2010 on www.dwi.gov.uk, www.privatewatersupplies.gov.uk and hard copies were sent to local authorities and Health Protection Units in England and Wales.

This document (version 3) was updated in October 2010 and is published on www.dwi.gov.uk. At the present time version 2 remains in the Private Water Supplies Technical Manual on www.privatewatersupplies.gov.uk. Local authorities and Health Protection Units in England and Wales can update the hard copies which were sent in April 2010 by printing the relevant pages.

The updates include the following section;

Section 2.5.1.1 and 2.5.1.2 (Fees. See DWI Information letter 08/2010)
Section 2.2.2.11 and 2.2.2.16 (Classification of work places where water is used for domestic purposes)

Section 2.2.3.4 (Clarification of Regulation 3 exemption)

9(E& W).1 Summary

1.1 The main reason for new legislation is the requirement to transpose, implement and enforce the UK's obligations under the revised European Union Directive 98/83/EC[1] (the Directive) on the quality of water intended for human consumption (drinking water). This Directive fundamentally updated the previous Directive 80/778/EEC[2] to take account of medical, scientific and technological advances and lays down prescribed standards on the quality of water intended for human consumption. The Directive sets standards and identifies other quality measures for drinking water that are generally in line with the World Health Organisation's (WHO) Guidelines for Drinking Water Quality, published in 2004[3].

1.2 The Directive covers both public water supplies and private water supplies. The Directive was transposed and implemented in England for the purposes of public water supplies by the Water Supply (Water Quality) Regulations 2000 (SI 2000/3184) as amended by the Water Supply (Water Quality) (Amendment) Regulations 2001 (SI 2001/2885), 2002 (SI 2002/2469), 2005 (SI 2005/2035) and 2007 (SI 2007/2734). Similar regulations apply in Wales.

1.3 The Directive is transposed, implemented and enforced in respect of **private water supplies** in England through the Private Water Supplies Regulations 2009 which came into effect on 1 January 2010 and in Wales through the Private Water Supplies (Wales) Regulations 2010 which came into force on 4 February 2010 (the Regulations). These regulations were made mainly under powers in Sections 67, 73(3), 73(4) and 213(2) of the Water Industry Act 1991 (the 1991 Act) and in respect of Part 4 under powers in Section 2(2) of the European Communities Act 1972.

1.4 The WHO Guidelines for Drinking Water Quality 2004 attach greater emphasis on proactive measures, rather than carrying out infrequent monitoring for large numbers of parameters in drinking water supplies. These measures include identifying potential hazards and the risk of those hazards occurring, and measures to prevent or control those risks. **WHO describes this process of risk assessment as a 'water safety plan'.**

1.5 A water safety plan considers the risks to a source of a drinking water supply, the treatment facilities, the distribution

[1] Official Journal L330, 5 December 1998, p32.
[2] Official Journal L229, 30 August 1980, p11.
[3] Guidelines for Drinking-water quality, Third Edition, Volume 1, Recommendations, World Health Organisation, Geneva, 2004.

infrastructure including pipes, reservoirs or tanks, and the internal pipe work within premises, and measures to prevent or control contamination from 'catchment to tap'. One of the key elements of a water safety plan is the identification of the hazards and the risks associated with those hazards. This element is described as a '**risk assessment**' and it is included in **the Regulations** because it can assist the UK to comply with its obligations under the Directive.

1.6 Article 1 of the Directive states that '*The objective of this Directive shall be to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean*'. This means that the informal approach of the previous Private Water Supplies Regulations 1991, which simply encouraged 'relevant persons' to maintain and improve supplies, is no longer sufficient – although local authorities could use the enforcement powers under Section 80 of the 1991 Act to serve notices on relevant persons to improve the supplies, there was no requirement to do so. **The Regulations** therefore require formal action to be taken to ensure that private water supplies meet the standards and other requirements of the Directive by requiring local authorities to **serve notices under Section 80 of the 1991 Act** if informal negotiations with relevant persons fail to secure improvements. Where a private water supply is considered to be a **potential danger to human health**, the local authority is under a duty to serve a notice under **regulation 18 of the Regulations** to require the supply to be **prohibited or its use restricted and for the supply to be improved** (instead of a notice under Section 80).

1.7 The Directive applies to all private water supplies providing $10m^3$/day or more (serving 50 or more persons) and to all private water supplies, irrespective of their size, that are part of a commercial or public activity (such as bed and breakfast establishments). These are referred to as '**large supplies'** in this guidance. The Directive allows Member States to exempt from their regulations private water supplies providing less than $10m^3$/day (serving less than 50 persons), provided that they are not part of a commercial or public activity. These are referred to as '**small supplies'** in this guidance. **The Regulations apply the Directive's requirements to these small supplies (except supplies to single dwellings) because the people consuming water and food prepared from water derived from these small supplies are entitled to the same level of health protection as people served by large private supplies and public water supplies.**

9(E).1.1 The main changes

1.1.1 The Regulations place a duty on local authorities to **carry out a risk assessment within five years** and to **monitor regularly all large supplies** in accordance with specified frequencies to determine compliance with the standards. There are two types of monitoring for large supplies – '**check monitoring'** which is carried out relatively frequently for a few very important parameters and '**audit monitoring'** which is carried out less frequently for the remaining parameters. Local authorities can omit parameters from 'audit monitoring' for particular supplies if they can demonstrate by risk assessment and results of previous monitoring that those parameters are unlikely to be present or present at concentrations well below the standards. The Regulations place a duty on local authorities to **carry out a risk assessment and monitor all small supplies within five years** (except supplies to single dwellings) **and subsequently to keep the risk assessment under review and up to date**. The monitoring is for a limited number of very important parameters and other parameters identified by the risk assessment. Users of a supply to a single dwelling can ask the local authority to carry out a risk assessment and/or monitoring and, if they do so, the local authority must comply with the request.

1.1.2 All private water supplies, large and small, are required to meet the standards in the Regulations. When the monitoring carried out by a local authority detects a **failure to meet a standard**, the local authority must **carry out an investigation to determine the cause** of the failure and, **unless it is trivial and unlikely to recur,** then **ensure that appropriate action** is taken to remedy the cause so that the standard is met. If the local authority cannot secure action by the responsible person by **informal negotiation** and an **authorisation** has not been granted, it must serve a **notice under Section 80 of the 1991 Act** on that person as the relevant person. If the cause of the failure is due solely to the condition of pipe work within a private dwelling, the local authority must offer appropriate advice to the owner/occupiers on any measures needed to protect their health and it may issue a notice under Section 80 of the 1991 Act if necessary.

1.1.3 If, following risk assessment or monitoring, the local authority considers, that a **private supply is a potential danger to human health**, it must take appropriate steps to ensure that people likely to consume the water are warned and given advice to allow them to minimise any such danger. The local authority should consider any advice given by the local Health Protection Unit (HPU) on

these matters. Furthermore, when any private water supply is a **potential danger to human health**, the local authority is required to **serve a notice on the relevant person under regulation 18** of the Regulations instead of under Section 80 of the 1991 Act, provided the serving of the notice will not cause a greater danger to human health than not serving it. This notice must **prohibit or restrict the use of the supply** and must specify the other action that is needed to protect human health, **such as improvements to the supply**. The local authority must inform consumers of the notice and provide them with any necessary advice which could be to restrict the use of the water, for example to boil water used for drinking and food preparation because of a failure of a microbiological parameter or not to use the water for drinking, food preparation and cooking because of a serious failure of some chemical parameters. Such advice is a temporary measure pending the completion of improvements to the supply.

1.1.4 Any relevant person (owner, user or other person responsible for a private supply) may apply to the local authority for an **authorisation** (called a derogation in the Directive) – that is permission to continue supplying water to a lower (more relaxed) standard on a temporary basis while remedial action is taken. A local authority can only grant an authorisation if the supply cannot be maintained by other reasonable means and the authorisation does not cause a potential danger to human health. Therefore authorisations are not available for microbiological parameters, as failures to meet the standards for these parameters could pose an immediate danger to human health.

1.1.5 Persons authorised by a local authority have the **power to enter any premises** under Section 84(3) of the 1991 Act to ensure that the provisions of the Regulations are complied with. Authorised persons may carry out inspections, measurements or tests on the premises or of any articles found on the premises or take away samples of water or any articles.

1.1.6 A local authority may now **charge** a relevant person (or persons) responsible for a private water supply **a fee** up to a **specified maximum** for carrying out a risk assessment (including the cost of auditing a risk assessment carried out, or commissioned, by the relevant person), carrying out an investigation into a failure and granting an authorisation as well as for carrying out monitoring (sampling and analysis). The charge the local authority may make is the reasonable cost of providing the specified service. A local authority is not allowed to charge for serving a notice under Section 80 of the 1991 Act or a notice

under regulation 18 of the Regulations. However, if the local authority decides to take remedial action itself to improve a private supply (because for example the relevant person had not taken action), the local authority can recover the costs of taking that action from the relevant person.

1.1.7 Local authorities are required to **enforce compliance** with the standards and other requirements of the Regulations.

9(E).1.2 The role of the Drinking Water Inspectorate

1.2.1 The role of the Chief Inspector of Drinking Water and her Inspectors in the Drinking Water Inspectorate (DWI) in respect of private water supplies is defined in Section 86 of the 1991 Act as amended by the Water Act 2003. **DWI acts on behalf of the Minister** by exercising **powers** under sections 77 and 80 to 82 of the 1991 Act.

1.2.2 Section 77 requires each local authority to keep itself informed about the wholesomeness of every private water supply in its area. Each local authority achieves this by carrying out its duties of risk assessment, monitoring (sampling and analysis) and enforcement of the standards required by the Regulations. The Regulations require each local authority to provide to the **Minister** (in practice DWI) with relevant information about each private supply and its quality so that DWI in its annual report can provide an **independent assessment and commentary** on private water supplies and their quality in England and in Wales. It also enables DWI to report on the quality of specified private water supplies to the European Commission (currently those supplies of more than 1,000m^3/day or serving more than 5,000 people).

1.2.3 Section 77 also requires a local authority or local authorities generally to comply with any Direction issued by the Ministers (in practice DWI) in relation to any of the requirements placed on local authorities by the 1991 Act or the Regulations.

1.2.4 The Regulations now require a local authority, when it finds that a private water supply is not wholesome (fails to meet the standards and other quality requirements in the Regulations) and is not a potential danger to human health, to serve a notice under Section 80 of the 1991 Act requiring a relevant person responsible for the private supply to carry out specified steps to improve the supply so that it becomes wholesome. This duty should only be exercised formally if the local authority has been unable to secure the necessary improvements through informal

negotiations or through a condition attached to an authorisation of a different standard. Section 81 of the 1991 Act allows a relevant person to object to the contents of a notice. If the local authority cannot persuade the relevant person to withdraw the objection, it must send the notice and the representations to the Minister (in practice DWI). DWI will determine whether the notice should be confirmed with or without modification.

1.2.5 DWI Inspectors provide **advice and guidance to local authorities** on the scientific and technical aspects of the Regulations. Much of this advice and guidance is contained in the Private Water Supplies: Technical Manual. However, a local authority requiring additional advice or guidance should contact DWI by e-mail at dwi.enquiries@defra.gsi.gov.uk or by telephone on 030 0068 6400.

9(E).2 Guidance on the Private Water Supplies Regulations in England and in Wales

9(E).2.1 Introduction

2.1.1 The private water supplies regulations for England and Wales are substantially the same, with the exception of Regulations 4 and 5, for which separate guidance is provided. This section of the guidance is intended to be read alongside the text of the Regulations. **It cannot be taken as an authoritative interpretation of the Regulations as that is for the courts. However, the guidance represents the best available technical knowledge and following it will ensure consistency of application of the Regulations by local authorities.** The Regulations replace the 1991 Regulations. The Water Industry Act 1991 (the 1991 Act) remains the primary piece of legislation regarding private water supplies in England and Wales.

Meaning of local authority

2.1.2 The Regulations are implemented and enforced by local authorities, but the Regulations do not define local authorities, because they are defined under the Water Industry Act 1991, in Section 219, as:

'The council of a district or of a London borough or the Common Council of the City of London (but in relation to Wales this means the council of a County or County borough).'

2.1.3 A local authority could also include, for example, a Port Health Authority, where either the local authority is responsible for the Port Health functions or a Port Health Authority exists, provided that the Port Health functions have been assigned under the relevant Act. This would only apply when water from a water undertaker or licensed water supplier is further distributed to various buildings within the port through a private distribution network (see Section 9(E).2.2.2).

9(E).2.2 Part I – Water Standards

9(E).2.2.1 Regulation 1 – Citation, application and commencement

England

2.2.1.1 These regulations may be cited as the Private Water Supplies Regulations 2009. They apply in England and came into force on 1 January 2010.

Wales

2.2.1.2 These regulations may be cited as the Private Water Supplies (Wales) Regulations 2010. They apply in Wales and came into force on 4 February 2010.

9(E).2.2.2 Regulation 2 – Scope (waters covered by the Regulations)

Scope

2.2.2.1 The Regulations apply to private water supplies where the water is intended for human consumption. The Regulations define water intended for human consumption as:

a. *all water either in its original state or after treatment, intended for drinking, cooking, food preparation or other domestic purposes, regardless of its origin and whether it is supplied from a distribution network, from a tanker, or in bottles or containers; and*

b. *all water used in any food-production undertaking for the manufacture, processing, preservation or marketing of products or substances intended for human consumption.*

2.2.2.2 In normal circumstances, a private water supply will be provided through a distribution network to the premises and the water supplied must meet the standards and other requirements of the Regulations. In an emergency (for example when there is a quality failure or a problem with the source or a failure of treatment or a potential danger to human health), it may be necessary to supply water from tankers or in bottles or other containers such as cartons. The water in the tankers must also meet the requirements of the Regulations. Local authorities are advised to develop policies and procedures on how to deal with this situation of insufficiency of water, whether due to emergency or planned improvement works, before it arises local authorities

are recommended to draw on the resources and expertise of their local water undertaker to ensure that alternative supplies by tankers comply with the requirements. There are also private companies which can provide an alternative wholesome water supply. A Section 80 notice under the Water Industry Act 1991 served on the relevant person can require a sufficient supply. If a notice is not complied with, the local authority has a power under Section 82 of the Water Industry Act 1991, to take any steps specified in the notice and recover any reasonable expenses incurred.

2.2.2.3 Any water in bottles or other containers that is for sale or sold is controlled by the Natural Mineral Water, Spring Water and Bottled Drinking Water (England) Regulations 2007[4] (see exemptions in 9(E).2.2.3) and is not controlled by the 2009 Regulations. However, if the private water supply is used in the bottling food premises for domestic purposes, like the staff canteen, drinking, washing hands etc, or as part of the manufacture processes and procedures, such as cleaning of the food contact surfaces or machinery in contact with food, the water would have to be wholesome and comply with the Regulations. It is likely that most water supplied in bottles and containers instead of a normal private supply in an emergency will have been bought. If, however, water in bottles or containers is supplied instead of a private supply (due to insufficiency) and that water is not controlled by the 2007 Regulations because it has not been for sale or sold, then it is controlled by the 2009 Regulations.

2.2.2.4 Water used for human consumption is basically water used for the normal **domestic purposes** of drinking, cooking, food preparation and personal washing (such as washing hands and showering).

2.2.2.5 The use of private water supplies in premises where food is manufactured or processed could include the use of water for the following activities (the list is illustrative and is not exhaustive):

- washing of crops/foodstuffs (particularly washing of ready to eat items such as salad crops or fruit vegetables which are particularly vulnerable to contamination from poor quality water);
- dairy farms;
- incorporation into food as an ingredient (including drinks or water used in a brewery);

[4] S. I. 2007, No. 2785.

- cleaning of food production equipment, utensils, walls, floor, ceilings and work surfaces;
- production of ice; and
- hand washing by food handlers.

2.2.2.6 Examples of water used solely for washing crops that could affect the fitness are (this list is illustrative and is not exhaustive):

- washing of salad crops (such as lettuce, water cress and spring onions) that are eaten uncooked; and
- washing of fruit (such as eating apples, pears and plums) that are eaten raw.

For other exemptions from the Regulations see section 9(E).2.2.3.

Waters covered by the Regulations

2.2.2.7 The Regulations do not define 'private water supplies'. They are defined in Section 93 of the 1991 Act. Local authorities should consider that the Regulations apply to all supplies that are not supplied by:

- a water undertaker appointed under Chapter 1 of Part II of the 1991 Act;
- a licensed water supplier licensed under Chapter 1A of Part II of the 1991 Act; or
- the Council of the Isles of Scilly.

2.2.2.8 Therefore a private water supply is any supply of water that is not provided by a statutory water undertaker (including the Council of the Isles of Scilly) or a licensed water supplier (but see the exceptions for private distribution networks in paragraphs 2.2.2.19 to 2.2.2.23 and bottled water in Section 9(E) 2.2.3).

2.2.2.9 Premises in which food is produced include hotels, restaurants and cafes, and similar establishments, bed and breakfast establishments and facilities in which food is manufactured or processed. These are all considered to be commercial premises.

2.2.2.10 Private water supplies vary in size from those that provide water to one premises (a single dwelling or single commercial/public establishment) to those that provide water to several hundred premises. The Regulations refer to 'large supplies and supplies

to commercial and public premises' and these are referred to in this guidance as '**large supplies'** and are defined as:

- any private water supply that provides 10m^3/day or more (or supplies 50 persons or more);
- any private water supply that supplies water to premises where the water is used for a commercial activity irrespective of the volume of water provided or the number of persons supplied; and
- any private water supply that supplies water to public premises irrespective of the volume of water provided or the number of persons supplied.

2.2.2.11 Some examples of private water supplies where the water is used for a **commercial activity** include the following (this list is illustrative and is not exhaustive):

- hotels, guest houses, restaurants, cafes and bed and breakfast (B&B) establishments including single private dwellings where B&B is available;
- holiday let accommodation;
- caravan sites, camp sites and similar facilities, whether seasonal or open all year;
- temporary sites, such as show grounds and festivals;
- all food production undertakings except for those stated in E(2)2.2.3; and

2.2.2.12 Some examples of private water supplies to public premises include the following (this list is illustrative and is not exhaustive):

- nursery, infant, junior, primary and secondary schools, colleges, universities and similar educational establishments;
- nursing homes, medical clinics, hospitals and similar establishments;
- village halls, church halls, libraries and similar establishments; and
- restaurants, cafes and similar establishments.

2.2.2.13 A single dwelling on a private water supply which is used for childminding will be registered with the local authority Food

Safety Team. The local authority can assess the premises to decide if the dwelling is a commercial premises. If parents are charged a fee for childminding, then the dwelling is a commercial premises and the private supply is required to meet the requirements of the Regulations. However, where a single dwelling is used for childminding purposes on a non-fee paying basis (an agreement between a group of parents), and the local authority suspects that the supply is a potential danger to human health, it is advised that advice is sought from the local HPU and when necessary the supply is investigated and action taken under regulation 18.

2.2.2.14 Some of the **large** private water supplies serve dwellings (houses, flats etc) where the water is only used for domestic purposes and are not part of any commercial or public activity. These range from supplies to small hamlets, to villages and private estates. Some of the **large** private water supplies serve both dwellings where the water is used only for domestic purposes and premises where the water is used for commercial activities or public activities (for example a village with a public house).

2.2.2.15 The Regulations also refer to '**other private supplies'** and these are referred to in this guidance as '**small supplies'** and are defined as:

- any private water supply that provides less than 10m^3/day (or supplies less than 50 persons) where the supply is only used for domestic purposes (there is no commercial or public activity).

2.2.2.16 These **small** private water supplies will include:

- any private supply that provides less than **10m^3/day (or serve less than 50 persons)** to two or more dwellings; and

- any private supply that provides water to one or more dwelling/premises which is a premise where employees come to work and the water is only used for domestic purposes. This does not include supplies where the premises are Public Building (as explained in 2.2.2.12) or where the dwelling/s contains peripatetic workers, based on the Health and Safety Executive (HSE) definition.

2.2.2.17 The Regulations do not define '**single dwelling'**. A private supply to a single dwelling is one where the water is supplied **only for domestic purposes** (water used for cooking, drinking, food

preparation and washing) and where the water is not used for any commercial activity (such as bed and breakfast). Some examples of single dwellings include the following (this list is illustrative and is not exhaustive):

- a house (detached, semi-detached, terraced);
- a bungalow/chalet (detached, semi-detached);
- flats/apartments; and
- a caravan.

2.2.2.18 Where a private supply provides water, for example, to two dwellings where the water is only used for domestic purposes and to a third dwelling where bed and breakfast is available, that private supply is categorised as a **large supply** for the purposes of the Regulations.

2.2.2.19 The Regulations also refer to '**Further distribution of supplies from water undertakers or licensed water suppliers'. This is a special case where water derived originally from a public supply by a statutory water undertaker or licensed water supplier subsequently becomes a private water supply under the Regulations.** These private water supplies occur when the undertaker or licensed supplier provides a water supply to the boundary of the premises, to an owner/manager or other person responsible for the premises. This water is then distributed through a private distribution network to buildings/properties on the site. When the building/properties supplied are not owned or occupied by the same company/organisation/person (such as domestic dwellings), this is a private distribution system. The local authority is required to carry out a risk assessment on the distribution network, including pipes, storage tanks, stand pipes, etc which joins the building/properties owned by the site to those owned or occupied by another company, organisation or person. In this document this type of private water supply is called a '**private distribution system'**.

2.2.2.20 Each local authority needs to identify all the private distribution systems in its area. Some of these will be obvious and already known to the local authority, but others may be more difficult to identify. For example caravan site (holiday or permanent sites) are private distribution systems. The owner of the site provides a water supply to the residents. The residents pay for this in their site fees to the owner of the site, not the water undertaker. The only person here who is the water undertaker's customer is the caravan site owner.

2.2.2.21 The local authority should liaise with statutory water undertakers and any licensed water suppliers that supply water within its area, because they will be able to help with identifying sites where they supply water to the boundary and the water is further distributed to other buildings and housing units within the site. However, there is a group currently working with DWI and the water undertakers which is reviewing what information water undertakers store and how this can help local authorities to identify private distribution systems. This guidance will be published on the DWI website (www.dwi.gov.uk) in spring 2010.

2.2.2.22 To help statutory water undertakers and any licensed water suppliers identify private distribution systems within its area, local authorities are advised to establish a list of the premises which are presumed to be private distribution systems. For example, lists of caravan sites, large multiple purpose university sites or hospitals, etc.

2.2.2.23 Advice on risk assessment for private distribution systems can be seen in Sections 2.3.2.4 and 2.3.2.5. However, DWI will also be providing further advice and a risk assessment guide, which will be published on the DWI website (www.dwi.gov.uk) in early 2011.

2.2.2.24 Discussions with the statutory water undertakers and any licensed water suppliers to identify private distribution systems is useful as this can establish where a distribution network has been accepted by the water undertaker as their responsibility, for example a council housing estate or a private housing association estate. The undertakers should be able to provide distribution network maps showing the sites and premises supplied (and billing lists) which can be compared with ordnance survey maps showing the location of all sites and premises. Sometimes the water undertaker will provide a 'bulk supply', for example to an industrial site or estate and the water is then further distributed by the owner/manager of the site to the various units within the site or estate – this is also a private distribution network. This should enable sites/estates and premises supplied either by private water supplies or private distribution networks to be identified. The local authority will need to confirm with the owners, managers or occupiers of the identified sites that there is a private distribution network and ensure they understand their duties under the Regulations.

2.2.2.25 Examples of **private distribution networks** include the following (this list is illustrative and is not exhaustive):

- caravan and camp sites where the water is distributed to individual caravans/camping plots or a number of points (such

as standpipes) where consumers can collect water in containers;

- military establishments where the water is distributed to offices, workshops, domestic dwellings (houses/flats etc) and other buildings for domestic purposes even if they are not owned by the establishments;

- college and university campuses where water is distributed to other buildings not occupied by the university; hospital sites where water is distributed to multiple buildings or other buildings not occupied by the hospital; shopping centres where the water is distributed to the shopping outlets; and administration offices and other buildings for domestic purposes;

- airports/ports/train stations where water is distributed to various buildings within the transport site for domestic purposes; and

- private or publically owned estates where water is distributed to other buildings (for example the National Trust), including domestic dwellings.

2.2.2.26 These regulations do not apply to the following situations where the water is supplied to the boundary of the premises by a statutory water undertaker or a licensed water supplier and is distributed through a domestic distribution system within the premises. The Regulations do not apply to these situations because they are covered by the Water Supply (Water Fittings) Regulations 1999[5] (this list is illustrative and is not exhaustive):

- blocks of residential flats/apartments whether owner occupied or tenanted;

- houses with individual flats, such as maisonettes;

- houses that have multiple occupancy;

- a row of two or more houses (usually a terrace) supplied by a water undertaker from a single 'common' supply pipe;

- a new building or conversion (for example a barn) on an existing site where the water not supplied from the farm house, but through an individual supply pipe direct from the water main; and

[5] S.I. 1999, No. 1148.

- commercial buildings, such as office blocks, with or without a staff canteen etc (because the water is supplied to a single building – if there is more than one building on the site, the ownership of the distribution network, the occupiers of the other buildings and who they pay their water bills to, will determine whether this is a private distribution network).

2.2.2.27 In these situations the individual housing and other units are supplied with water directly from the water undertaker's or licensed water supplier's main. The poor quality and condition of pipe work and fittings within the premises can affect the mains water supply if there is no back siphonage protection between the building and the mains water supply, consequently the mains water supply can become contaminated. However, through a complaint or a sample, the contamination of the mains water supply would be identified. The water undertaker or licensed water supplier would investigate this, using their powers under the Water Supply (Water Fittings) Regulations 1999. The water undertaker or licensed water supplier, as the persons responsible for enforcing the Water Supply (Water Fittings) Regulations 1999 would advise the owner of the individual housing or other units what remedial works (to the pipe work and/or the fittings) are required to prevent the mains supply becoming contaminated again.

9(E).2.2.3 Regulation 3 – Exemptions

2.2.3.1 The following waters are exempt from the Regulations – that is they are not controlled by the Regulations:

a) *water controlled by the Natural Mineral Water, Spring Water and Bottled Drinking Water (England) Regulations 2007[(6)];or the Natural Mineral Water, Spring Water and Bottled Drinking Water (Wales) Regulations 2007;*

b) *water that is a medicinal product; or*

c) *water used solely for washing a crop after it has been harvested and that does not affect the fitness for human consumption of the crop or of any food or drink derived from the crop.*

2.2.3.2 All types of bottled water that are for sale are excluded from the Regulations because the quality of these waters is controlled by the above 2007 Regulations. However, where water in bottles or containers is supplied instead of a private supply (for example

[6] S. I. 2007, No. 2785.

where a supply is insufficient and an alternative supply is provided), that water is not controlled by the 2007 Regulations because it has not been for sale or sold. Instead, it is controlled by the 2009 Regulations. If a private water supply is used at a bottling plant to fill bottles and is also used to supply other premises, the bottled water is covered by the 2007 Regulations and the supply to the other premises is covered by the Private Water Supplies Regulations.

2.2.3.3 Water that is a medicinal product is water that is regulated by the Medicines Act 1968[7].

2.2.3.4 Before exempting any private water supplies that are used solely for washing crops, the local authority must be satisfied **with appropriate evidence from the food producer** that the quality of water does not affect either directly, or indirectly, the fitness of the crop or any food or drink prepared from the crop for human consumption.**This exemption specifically applies crops which can be categorised as a plant.** The local authority should consult the Food Standards Agency and DWI before making any exemptions. Examples of water used solely for washing crops that **may not** affect the fitness of the crop include the following (this list is illustrative and is not exhaustive):

- washing of barley prior to making whisky – and only where the water is used prior to the distillation process. If the water is added after distillation this may affect the quality of the final product and it therefore should be monitored as a large supply/commercial premises);
- washing and trimming of vegetables, after they have been harvested; and
- a farm where the water is only used for the rearing of livestock and is not used for normal domestic purposes.

2.2.3.5 Where water is used solely for washing crops that could affect the fitness of the crop the process is categorised under the Food Regulations (EC) No. 852/2004 as secondary production. This states that potable water is required whenever necessary to ensure that foodstuffs are not contaminated [Ref Annex II, Chapter VII, 1(a)]. The term potable water in Food Legislation is equivalent to wholesome water under these water Regulations. Examples of when wholesome (potable) water is required when water is used solely for washing crops that **could affect** the

[7] S. I. 1968, c. 67.

fitness are as follows (this list is illustrative and is not exhaustive):

- washing of salad crops (such as lettuce, water cress and spring onions) that are eaten uncooked;
- washing of fruit (such as eating apples, pears and plums) that are eaten raw;
- washing of vegetables for peeling and slicing; and
- washing and bagging of salad crops.

2.2.3.6 Water which is used for cleaning purposes and comes into contact with food, is required to comply with the Water Regulations and the Food Regulations (EC) No. 852/2004 Annex I, Section I, 4(d). Examples of these situations are as follows (this list is illustrative and is not exhaustive):

- washing of food contact surfaces (equipment, storage containers, utensils, hands); and
- washing of udders and teats prior to milking.

9(E).2.2.4 Regulation 4 – Wholesomeness

2.2.4.1 The Regulations define **wholesomeness by reference to standards and other requirements**. Water is wholesome if all the following conditions are met:

a) it does not contain any microorganism, parasite or substance, alone or in conjunction with any other substance, at a concentration or value that would constitute a potential danger to human health;

b) it complies with the concentrations or values specified in Part 1 of Schedule 1[to the Regulations]; and

c) in the water: $\frac{\text{nitrate (mg/l)}}{50} + \frac{\text{nitrite (mg/l)}}{3} \leq 1$

2.2.4.2 For water distributed through a distribution network these standards and other requirements of wholesomeness apply at the point where the water is normally used for human consumption (consumers' taps). However, there are two parameters where requirements also apply to the water leaving treatment works (if there is a works). For nitrite a standard of 0.5mg/l applies at consumers' taps and a standard of 0.1mg/l applies to the water leaving treatment works. For turbidity a standard of 4NTU applies at consumers' taps and an indicator parameter value of 1NTU

applies to the water leaving treatment works (treatment works could include one or more of the following processes – blending, coagulation and flocculation, clarification, settlement, sedimentation, aeration and oxidation, filtration, ion exchange, membranes, disinfection), but only in the case of a works treating surface water or ground water influenced by surface water.

2.2.4.3 The condition that the water does not constitute a potential danger to human health is a catch-all which embraces organisms and substances, and any characteristics of water that are not parameters with a standard (concentrations and values) in Part 1 of Schedule 1 to the Regulations. It also catches indicator parameters (concentrations, values or states) in Part 2 of Schedule 1 to the Regulations (see paragraph 2.2.4.6). For example the parasites, *Cryptosporidium* and Giardia, do not have a standard in the Regulations, but the Regulations require that *Cryptosporidium* and Giardia must not be present in concentrations that constitute a potential danger to human health. Local authorities are required to carry out a risk assessment of every private supply and one of the hazards that should be considered is the risk from parasites such as *Cryptosporidium* and Giardia. Other examples are chlorite, chlorate, molybdenum and toluene. If there is a risk that any of these or other substances are present in a particular private supply, the local authority should monitor for that substance and use the latest version of the WHO Guidelines for Drinking Water Quality (revised on a rolling basis)[8] to determine, in consultation with the local HPU, whether there is a potential danger to human health.

2.2.4.4 There are separate standards for nitrate and nitrite of 50mg/l and 0.5mg/l respectively that apply at consumers' taps. But when nitrate and nitrite occur together, as they often do when a source is contaminated or when chloramination (use of chlorine/sodium hypochlorite and ammonia/ammonium compound to form a residual disinfectant in the form of monochloramine) is used, it is necessary to have a stricter combined standard to protect human health. This stricter standard is represented by the formula shown at paragraph 2.2.4.1. There is also a separate standard for nitrite of 0.1mg/l which applies to the water leaving treatment works – this applies to all supplies where there is a treatment works

[8] www.who.int/water_sanitation_health/dwq/gdwq3rev/en/
www.who.int/entity/water_sanitation_health/dwq/gdwq3rd_2ndadd/en/

2.2.4.5 The parameters and their standards (maximum concentrations or values) and units of measurement in Part 1 of Schedule 1 to the Regulations are reproduced in Annex 1.

2.2.4.6 The Regulations also include maximum (and one minimum) concentrations, values and states for indicator parameters. These are not part of the definition of wholesome water. Indicator parameters indicate if there is a potential problem with the supply which needs investigating. If there is a failure to meet an indicator parameter concentration, value or state, the local authority must consider whether the circumstances of the failure (including the extent and duration of the failure) are a potential danger to human health. The local authority carries out this consideration in consultation with the local HPU. It is also advisable to consult DWI to ensure consistency of approach and to benefit from the experience of many similar decisions made by statutory water undertakers, licensed water suppliers and DWI in relation to public water supplies. If it is agreed that there is a potential danger to human health, because the water is unwholesome by virtue of the catch-all in the definition of a wholesome water, then the local authority is required to ensure that a relevant person responsible for the failing supply takes action to remove the potential danger to human health.

2.2.4.7 If water is supplied in bottles and containers instead of, or to supplement, a private water supply, and it is not controlled under the Natural Mineral Water, Spring Water and Bottled Drinking Water (England) Regulations 2007 (or the Natural Mineral Water, Spring Water and Bottled Drinking Water (Wales) Regulations 2007), the water has to meet the wholesomeness requirements for chemical parameters described above and some tighter and additional requirements for microbiological parameters. These are tighter standards for *E.coli*, and Enterococci, standards for colony counts (instead of indicator parameter values) and an additional standard for Pseudomonas aeruginosa. Local authorities should note that Pseudomonas aeruginosa is only monitored in bottled waters – it is not monitored in distributed private water supplies or public water supplies.

2.2.4.8 The indicator parameter concentrations, values and states (descriptions instead of numbers) and units of measurement in Part 2 of Schedule 1 to the Regulations are reproduced in Annex 1.

9(E).2.2.5 Regulation 5(4Bin the Welsh Regulations) – Use of products and substances in private supplies

2.2.5.1 The Regulations require that 'Any product or substance used in a private supply after the coming into force of these Regulations must be permitted to be used in a water supply under regulation 31 of the Water Supply (Water Quality) Regulations 2000[9].'

2.2.5.2 This means that the Regulations require that the **substances** (for example chemicals used in water treatment, such as coagulants and disinfectants) and the **materials** (for example the tanks and pipe work at treatment works and in the distribution network) used in private water supplies for the preparation and distribution of water for human consumption after 1 January 2010 **must satisfy the appropriate requirements of regulation 31** of the Water Supply (Water Quality) Regulations 2000[10]. This includes any new installations and repair/replacement of existing installations (treatment processes and distribution networks) made after
1 January 2010. Regulation 31 essentially requires that the substance or material:

- **has** to conform to an appropriate harmonised standard or European technical approval; or
- **has** to conform to an appropriate British Standard or some other national standard of an EEA State which provides an equivalent level of protection and performance; or
- ***has*** been approved by the Ministerto be applied or introduced and it is applied or introduced in accordance with conditions attaching to that approval; or
- is to the satisfaction of the Minister is either alone or in combination with any other substance or material unlikely to adversely affect the quality of the water supplied.

2.2.5.3 Regulation 5 does not apply to structure or products or material installed prior to 1 January 2010. For example, many existing spring chambers and reservoirs are not constructed of material which would comply with this regulation. It is not expected that these need replacing. However, if the reservoir or spring chamber needs new pipe work or repair to a crack in the walls (with cement and waterproof lining/sealant), any material used to repair this must comply with this regulation. These types of products are readily available because they are frequently used by water undertakers and are known to comply with this regulation. If necessary you can seek further advice from your

[9] S. I. 2000/3184 as last amended by S. I. 2007/2734.
[10] S. I. 2000/3184.

water company or the Water Regulations Advisory Service (WRAS) (http://www.wras.co.uk/Directory/) (see paragraph 2.2.5.9) or DWI. Where improvements works are required to a supply, the local authority are advised make it clear in a notice that any material use in these improvements must comply with this regulation. Where improvement works are required to a supply, the local authority is advised to make it clear, in a notice to the relevant person, that any product or substance used in the improvement works must comply with these regulations.

2.2.5.4 The Minister may apply such conditions as are considered necessary to any of the above requirements (for example a maximum dose of a treatment chemical or the circumstances in which a material of construction may be used). The DWI acts on behalf of the Minister for these functions. A comprehensive list of substances and materials that satisfy these requirements can be found on the DWI website[11] and this list is regularly kept up-to-date.

2.2.5.5 The reasons for these requirements are:

- to make sure that any chemicals (or impurities or constituents of the chemicals) used in water treatment or in the distribution network do not remain in the water in concentrations that would breach a standard in the Regulations or cause a potential danger to human health; and

- to make sure that any materials used in the construction of water treatment plants and equipment and in the construction of distribution networks (including service reservoirs and tanks) do not support microbiological growth or leach constituents into the water that would breach a standard in the Regulations or cause a potential danger to human health.

2.2.5.6 The manufacturer or supplier of the chemical or material should demonstrate to the local authority or the relevant person responsible for the private supply that the chemical or material conforms to the above requirements.

2.2.5.7 If, as part of an investigation or remedial works, it is suspected that a product has been used which does not satisfy the requirement of regulation 31, the local authority should assess whether there is a potential danger to human health. For example, by allowing a product to be used which does not satisfy the requirement of regulation 31, bacterial growth could be encouraged on the surface of the product and pathogenic

[11] www.dwi.gov.uk/31/approvedproducts/soslist.shtm

bacteria could multiply. The contamination of the supply with pathogenic bacteria is likely when the presence of indicators occur such as *E.coli* and coliforms. If a supply has been assessed to be a potential danger to human health a regulation 18 notice must be served.

2.2.5.8 Not all products and substances require regulation 31 approval by DWI. This is partly dependent on whether the product has a large or small surface area in contact with the water. The critical factors to consider are the volume of water, the surface area of the product in contact with the water and the contact time between the water and the product. An example of a large surface area product, which requires regulation 31 approval, is a water pipe for a water distribution network, whereas an example of a small surface area product might be a rubber washer or the glass in an ultraviolet (UV) treatment system. Many private water supplies use products which would be categorised as a small surface area. DWI has published Advice Sheet No 8 on *Approval and Use of Products with Small Surface Area in Contact with Water* (http;//www.dwi.gov.uk/31/pdf/Advicesheet8.pdf). This lists small surface area products or components of products that can be used in the treatment and distribution of water supplies provided certain conditions are met.

2.2.5.9 One of the other conditions is that the product or component has passed the tests for effect on water quality under BS 6920:2000 (sections 2.21 and 2.4), which ensures the product satisfies the odour and flavour test criteria and does not sustain the growth of microorganisms. This testing can be done either by an independent testing laboratory or by WRAS. If the product is tested and approved by WRAS it will be listed as approved in the *Water Fittings and Materials Directory* published by WRAS (http://www.wras.co.uk/Directory/). This directory covers fittings and materials used within consumers' premises. If the testing is carried out by an independent testing laboratory, the laboratory will provide details to the company which supplies the product. The product will not be listed in the WRAS Directory or on the website. Taking the example of a UV treatment system, there will be several components which come in contact with water and will need to satisfy the requirements of regulation 31, but the manufacturers should supply the documentation to support this to the company selling the UV system. Therefore prior to the installation stage of remedial works, it is recommended that the installer is required to provide this information.

2.2.5.10 Examples of products, like UV treatment units, approved by WRAS and listed as approved in the Water Fittings and Materials

Directory published by the Water Regulations Advisory Service (http://www.wras.co.uk/Directory/) can be found on this link:

- http://www.wras.co.uk/Directory/fittings_list.asp?Section=2411

This link is updated by WRAS as new products are tested and shown to comply with BS 6920:2000.

9(E).2.2.6 Regulation 6 – Requirement to carry out a risk assessment

2.2.6.1 The Directive and the Regulations require investigation and remedial action whenever there is a failure in a private water supply to meet a standard for drinking water quality or there is a potential danger to human health. Failures are detected by the monitoring (sampling and analysis) required under the Regulations. However, monitoring is carried out relatively infrequently, particularly for the smaller supplies, and hence quality is unknown for most of the time and because private supplies are often of very variable quality, particularly following heavy rainfall, monitoring does not always identify failures. Therefore monitoring alone cannot provide assurance about the safety of a private water supply. Consequently a key aspect of the Regulations is the requirement placed on each local authority to carry out a **risk assessment of each private water supply** in its area **at least every five years.**

2.2.6.2 Comprehensive guidance on carrying out risk assessments is given in Section 4 of the Private Water Supplies: Technical Manual with some examples of typical risk assessments in Section 5 of
the Manual.

2.2.6.3 Risk assessments are increasingly being used worldwide as an essential part of a drinking water quality surveillance and control programme. The World Health Organisation (WHO) in its latest guidelines[12] states '*the most effective means of consistently assuring the safety of a drinking water supply is through the use of a comprehensive risk assessment and risk management approach that encompasses all steps in water supply from catchment to consumer'*. Risk assessment is a proactive approach to identify the risks (potential failures of standards and risks to human health) and to take action to control those risks **through a multi-barrier** approach (for example through source protection, treatment of the source water and management of the distribution network to prevent contaminants entering the supply

[12] www.who.int/water_sanitation_health/dwq/gdwq3rev/en/

system). The primary objectives of a risk assessment in ensuring good drinking water supply practice are to:

- identify the risks in the catchment that affect, or could affect, the quality of the source of the private water supply and any control measures that are practical to reduce the risk (for example fencing to prevent animals contaminating surface water sources and protection to avoid surface water entering a borehole by means of a diversion ditch). In many cases, control measures in the catchment or at the source will not minimise the risks sufficiently;

- identify the risks that need to be controlled by treatment and, if appropriate treatment is not present (this may be the case for many supplies, particularly small supplies), installing and maintaining appropriate treatment processes to remove or reduce the concentrations of contaminants;

- identify the risks of contamination entering the distribution network (for example through defective tanks and pipe work) and taking appropriate action to control those risks (inspections, repairs and maintenance);

- identify the risks of contamination within premises (for example from poor maintenance of pipes and fittings, particularly kitchen taps, and pick up of metals from older plumbing systems (for example lead) and taking action to minimise these risks (often by providing advice to the owners/occupiers of the properties);

- establish the control measures that are needed and the operational monitoring required (for example operational sampling and analysis for key parameters against warning/alarm limits that are tighter than the standards in the Regulations and routine checks/inspections);

- establish standard operating protocols with appropriate records for treatment and distribution under normal circumstances and protocols for timely remedial action when the monitoring of control measures indicates an operational problem;

- identify any security risks associated with the source, treatment works and distribution network so that measures can be taken to avoid deliberate contamination; and

- verify drinking water quality by establishing routine checks and inspections with appropriate records (e.g. source protection is

in place and operating effectively and that disinfection is operational) and by monitoring compliance with the standards and indicator parameter values in the Regulations.

2.2.6.4 Each local authority is required to carry out a risk assessment of every private water supply (except a supply to a single dwelling that is not used for commercial purposes) within five years – that is by 31 December 2014. Some local authorities with relatively few private water supplies in their areas will be able to complete their risk assessments well within this period. Other local authorities with relatively large numbers of private water supplies will require the full five years to complete the risk assessments. These local authorities need to prepare a programme of risk assessments that includes the higher priority private water supplies in the early years of the period. A number of factors determine priority and these could include:

- the number of people supplied;
- the extent of commercial or public activity;
- the nature of the source (variable quality surface water, constant quality ground water);
- the amount of treatment; and
- the management and operation of the supply.

2.2.6.5 Regulation 6 states that a risk assessment is to establish whether there is a significant risk of supplying water that would constitute a potential danger to human health. Local authorities must also use the risk assessment to establish whether there is a risk of non-compliance with any of the standards or indicator parameter values in Schedule 1 to the Regulations. The risk assessment should also be used as part of the information to enable local authorities to consider whether it can exclude parameters from the audit monitoring requirements (see paragraphs 2.3.3.12 to 2.3.3.19)

2.2.6.6 A local authority may use its own staff to carry out the risk assessments provided they are trained and competent. Alternatively, the local authority may commission an external organisation or individuals to carry out the risk assessments on its behalf. The local authority will need to be satisfied that the external persons doing the risk assessments are trained and competent. A local authority using external persons should audit a small number of the risk assessments to be satisfied that they

have been carried out competently and in accordance with the guidance.

2.2.6.7 A local authority is not required to carry out a risk assessment of a private water supply to a single dwelling, provided that it is not used for a commercial activity such as bed and breakfast. However, if the owner or occupier (including a tenant) of such a single dwelling asks the local authority to carry out a risk assessment, the Regulations require the local authority to do it, but the local authority can make a charge to the person making the request for this service up to the maximum specified in Schedule 5 to the Regulations.

2.2.6.8 Where a private water supply serves premises in more than one local authority's area, to avoid duplication of effort the local authorities should agree that one of them (normally the local authority where most of the premises served are situated) should prepare the risk assessment in consultation with the other authorities and copy the risk assessment to the other authorities.

2.2.6.9 The local authority should keep a full record of each risk assessment, including any risk assessment carried out on its behalf. In addition to the requirement to carry out each risk assessment at least every five years, the local authority should review a risk assessment whenever there is any significant change in circumstances in respect of the supply system (such as the deterioration of raw water quality, installation of new treatment process etc).

9(E).2.3 Part 2 – Monitoring

9(E).2.3.1 Regulation 7 – Monitoring

2.3.1.1 This regulation requires each local authority to monitor (sample and analyse) all the private water supplies in its area in accordance with Part 2 of the Regulations to fulfil its duties under Section 77(1) of the 1991 Act. The following sections of this guidance describe the monitoring that is required for 'private distribution networks', 'large supplies', bottled waters and other supplies ('small supplies') and the requirements on sampling and analysis, keeping of records about private water supplies and notification of information to the Minister (in practice DWI).

2.3.1.2 Where a private water supply serves premises in more than one local authority's area, each local authority has a duty under Section 77(1) of the 1991 Act to keep itself informed of the wholesomeness (and sufficiency) of that supply. However, to avoid duplication of effort the local authorities should agree that one of them (normally the local authority where most of the premises served are situated) should prepare the monitoring programme in consultation with the other authorities and then carry out the monitoring programme and arrange for the other authorities to receive the results.

9(E).2.3.2 Regulation 8 – Further distribution of supplies from water undertakers or licensed water suppliers

2.3.2.1 This regulation requires that:

'Where water is supplied by a water undertaker or licensed water supplier and is then further distributed by a person other than a water undertaker or licensed water supplier the monitoring must be carried out on the basis of the risk assessment'.

2.3.2.2 These supplies are referred to as supplies from **private distribution networks** in this guidance.

2.3.2.3 As part of the risk assessment for a private distribution network, the local authority needs to liaise with the water undertaker (or the licensed water supplier) about the quality of the water delivered to the boundary of the premises. The water should comply with all the standards and indicator parameters at this point unless the undertaker (or supplier), as a consequence of a past or current failure, has a programme of work in place to achieve compliance. The undertaker (or supplier) is required to provide the local authority with this information, including details of undertakings, authorised departures and notices, which set out

what remedial action/improvement works have been agreed with DWI. This should identify any parameters that should be monitored at consumers' taps within the private distribution network as a consequence of the quality of the water supplied by the undertaker (or supplier). In most cases no such parameters will be identified.

2.3.2.4 The purpose of monitoring is to verify whether the control measures in place to ensure the safety of drinking water are effective. Thus the assessment of potential risks and measures put in place to mitigate these risks is used to inform the need for monitoring on a case-by-case basis. The local authority needs to assess which parameters could be in danger of failing to meet a standard or indicator parameter as a consequence of the nature (for example the pipes, tanks, materials and lay out) and the condition (for example corrosion of iron mains, frequency of bursts) of the private distribution network and the nature and condition of the pipe work and fittings within the buildings (for example the presence of lead pipes, the hygienic condition of the taps/inserts). If plastic pipes form part of the private distribution network or the pipe work within premises and there are petrol, diesel or oil storage facilities within the premises, local authorities should be aware that any spillage of these substances could permeate the plastic pipes and cause an offensive taste, odour or appearance of the water supply. If the undertaker (or supplier) has had a past problem with poor treatment resulting in deposition of iron, manganese or aluminium in the distribution network, or corrosion of iron mains in the distribution network, these deposits may have been transferred into the private distribution network and risk failures to meet the standards for these parameters at consumers' taps.

2.3.2.5 Therefore some examples of parameters that local authorities should consider the need to monitor in private distribution networks, depending on the results of the risk assessment include the following (this list is illustrative and is not exhaustive):

- coliforms and *E.coli* (ingress into the network or poor hygienic conditions, especially tanks);
- colony counts (upward trend may indicate deterioration of water quality);
- conductivity, hydrogen ion and turbidity (as per the notes in Schedule 1, Part 2, Indicator Parameters);

- iron and zinc (from corrosion of galvanised steel or cast iron pipes). Note that zinc is not a parameter in the Regulations but it can occur when galvanised pipes are present and regulation 4(a) includes any substance which constitutes potential risk to human health;

- iron, manganese, aluminium and turbidity (deposits from poor past treatment);

- taste and odour (ingress and permeation of plastic pipes);

- trihalomethanes and bromate (disinfection by-products) (especially if there is chlorination within the private distribution network); and

- lead, nickel and copper (from the pipe work or tap fittings in the private distribution network or within the premises.

2.3.2.6 If the risk assessment shows that monitoring of one or more parameters is necessary to determine whether the standards and indicator parameters are met at consumers' taps in premises supplied through the private distribution network, the local authority will have to decide on the frequency of monitoring. The frequency will depend on the degree of perceived risk of failing to meet the standard or indicator parameter, the likely variation in the concentration or value of the parameter, the results of any previous monitoring, the nature and extent of the private distribution network and the types of premises supplied. If the monitoring shows a failure of a standard or a failure of an indicator parameter that is a potential danger to human health due to the private distribution network or the condition of the pipe work within premises, the local authority is required to take appropriate action (see section 9(E).2.4 of this guidance). If the monitoring shows that the concentrations, values or states of the parameters are well within the permitted levels and sufficient monitoring (enough samples over a period of time, say two years) has been undertaken, the local authority may decide that further monitoring of the private distribution network is not required for some parameters, but it should always monitor for microbiological parameters. The local authority should review its risk assessment whenever there is any significant change in circumstances and it must review it as a minimum every five years.

2.3.2.7 If the risk assessment shows that a feature of the private distribution network is a potential risk, for example a service reservoir or collection chamber, the local authority should carry out monitoring for appropriate parameters, for example microbiological parameters including colony counts, at that

feature. A series of colony count results will indicate whether there is a trend and potential deterioration in water quality.

2.3.2.8 In the case of further distributed water being supplied to a public building, then the risk assessment also needs to take into consideration the domestic distribution system of the public building.

9(E).2.3.3 Regulation 9 – Large supplies and supplies to commercial or public premises

2.3.3.1 This regulation defines 'large supplies and supplies to commercial or public premises' (referred to as 'large supplies' in this guidance) and excluding 'private distribution networks' as:

a) *supplies an average daily volume of water of 10m^3 or more (or supplies 50 persons or more); or*

b) *supplies water to premises where the water is used for a commercial activity or to public premises.*

2.3.3.2 The regulation requires a local authority to monitor each of these supplies in accordance with Schedule 2 to the Regulations and to carry out any additional monitoring that the risk assessment (see Section 9(E).2.2.6) shows to be necessary.

2.3.3.3 Schedule 2 requires a local authority to carry out two types of monitoring for these large supplies – '**check monitoring'** which is carried out relatively frequently for only a few important parameters and '**audit monitoring'** which is carried out infrequently for the remaining parameters.

Check monitoring

2.3.3.4 The purpose of check monitoring is to:

- determine whether or not water complies with the concentrations or values in Schedule 1 to the Regulations (the standards and indicator parameters);
- provide information on the organoleptic (taste, odour and appearance) and microbiological quality of the water; and
- establish the effectiveness of the treatment, including disinfection.

2.3.3.5 An additional purpose of check monitoring is to verify that the control measures at the source (collection chambers and

diversion ditches) and distribution network (pipes, storage tanks and treatment) are working satisfactorily.

2.3.3.6 The parameters, **ammonium, coliform bacteria, colony counts, colour, conductivity, *E.coli*, hydrogen ion concentration (pH value), odour, taste and turbidity**, must be monitored in **all large supplies** at the check monitoring frequency. The parameters specified in Table 1 need only to be monitored at the check monitoring frequency **if the circumstances specified in the table exist**. If the specified circumstances do not exist, the parameter needs only be monitored at the audit monitoring frequency. **Note that turbidity must be monitored at consumers' taps against a standard of 4 NTU and in the water leaving treatment works (if there is a works) against an indicator parameter value of 1NTU.**

Table 1: Circumstances for check monitoring for specified parameters

Parameter	Circumstances
Aluminium	When used as flocculent or where the water originates from, or is influenced by, surface waters
Clostridium perfringens (including spores)	Where the water originates from, or is influenced by, surface waters
Iron	When used as flocculent or where the water originates from, or is influenced by, surface waters
Manganese	Where the water originates from, or is influenced by, surface waters
Nitrate	When chloramination is practised
Nitrite	When chloramination is practised
Disinfectant residual*	When disinfection is practised*

* The Regulations do not require disinfectant residual to be monitored. However, whenever disinfection using a chemical is practised it is strongly recommended that local authorities monitor the residual disinfectant concentration at the check monitoring frequency (for example when chlorination is used the residual chlorine concentration should be monitored). Note that if irradiation with ultraviolet (UV) light is used as the disinfection process, there is no residual disinfectant.

2.3.3.7 Note that where chloramination is practised, nitrite must be monitored at consumers' taps against a standard of 0.5mg/l and in the water leaving treatment works against a standard of 0.1mg/l.

2.3.3.8 Local authorities must monitor the check monitoring parameters at the frequencies specified in Table 2. In the Regulations, the frequencies are related to the volume of water supplied each day. However, for some private water supplies the local authority may not know or be able to estimate the volume of water supplied. In

such cases the local authority should estimate the number of people supplied, or preferably obtain volume and population information from the person responsible for the supply. The local authority should assume that each person supplied uses on average of 0.2m^3/day (200 litres/day) and this has been incorporated into Table 2.

Table 2: Check monitoring frequencies

Volume supplied (m^3/day)	Number of people supplied	Frequency (number of samples per year)
≤ 10	≤ 50	1
> 10 ≤ 100	> 50 ≤ 500	2
> 100 ≤ 1,000	> 500 ≤ 5,000	4
> 1,000 ≤ 2,000	> 5,000 ≤ 10,000	10
> 2,000 ≤ 3,000	> 10,000 ≤ 15,000	13
> 3,000 ≤ 4,000	> 15,000 ≤ 20,000	16
> 4,000 ≤ 5,000	> 20,000 ≤ 25,000	19
> 5,000 ≤ 6,000	> 25,000 ≤ 30,000	22
> 6,000 ≤ 7,000	> 30,000 ≤ 35,000	25
> 7,000 ≤ 8,000	> 35,000 ≤ 40,000	28
> 8,000 ≤ 9,000	> 40,000 ≤ 45,000	31
> 9,000 ≤ 10,000	> 45,000 ≤ 50,000	34
> 10,000	> 50,000	4 + 3 for each 1,000m^3/day of the total volume (rounding up to the nearest multiple of 1,000m^3/day)

2.3.3.9 The Regulations allow a local authority to reduce the frequency of check monitoring by up to 50 per cent of the specified frequency for particular parameters if specified conditions exist. These conditions are:

- the local authority is of the opinion that the quality of water in the supply is unlikely to deteriorate;
- in the case of the hydrogen ion, the pH value is not less than 6.5 and not more than 9.5; and
- in all other cases, in each of two successive years, the results of samples taken for the purposes of monitoring the parameter in question are stable and significantly lower than the concentrations or values laid down in Schedule 1.

2.3.3.10 For supplies of 10m^3/day and less (50 people) a reduction in the annual frequency of one sample per year is not permitted. For supplies of 10m^3/day to 100m^3/day or less (500 people), it is recommended that local authorities do not apply reduced

frequencies because these supplies are already monitored infrequently. Local authorities should regard ‘significantly lower’ as below 75 per cent for most parameters, or below 50 per cent for parameters whose concentration or value is likely to be very variable, of the concentration or value specified in Schedule 1 to the Regulations.

2.3.3.11 Each local authority is required to carry out a risk assessment of each private water supply. A local authority may increase the frequency of check monitoring for a particular parameter if it considers it appropriate from the results of the risk assessment, for example because the risk assessment shows that the concentration or value of the parameter is likely to vary considerably. A local authority may include any other parameter or any other substance in check monitoring if it considers it appropriate from the results of the risk assessment. For example, the natural geology indicates that arsenic may be present.

Audit monitoring

2.3.3.12 The purpose of audit monitoring (for any parameter not included in check monitoring) is to:

- determine whether or not water complies with the concentrations or values in Schedule 1 to the Regulations (the standards and indicator parameters); and
- check, if disinfection is used, that disinfection by-products are kept as low as possible without compromising the disinfection.

2.3.3.13 Note that unless chloramination is practised to create a residual disinfectant in the form of monochloramine, nitrite only needs to be monitored at consumers’ taps against a standard of 0.5mg/l.

2.3.3.14 The Regulations provide for a local authority to exclude parameters from audit monitoring if certain specified conditions are met. These conditions are:

a) if it considers that the parameter in question is unlikely to be present in the supply at a concentration or value that poses a risk of the private supply failing to meet the concentration, value or state specified in Schedule 1 in respect of that parameter;

b) taking into account the findings of any risk assessment; and

c) taking into account any guidance issued by the Secretary of State.

2.3.3.15 This paragraph and Table 3 contain the current guidance issued by the DWI. Local authorities should review any previous monitoring of private water supplies carried out under the 1991

Regulations. Each local authority should also consult the water undertaker or licensed water supplier for its area because public supply risk assessments will contain information on the local catchments and will have obtained other relevant information from the Environment Agency (EA) in respect of local ground waters and surface waters in the area. The water undertaker carries out raw water monitoring at each abstraction point and provides this to the DWI. Where several local authorities have supplies in the same catchment, it may be more efficient for the local authorities to work together with the water undertaker to document the risk assessment relating to all local sources. If a private water supply is used at a bottling plant to fill bottles and is also used to supply other premises, any results or assessment of the supply for the 2007 Regulations can be used as part of the risk assessment for the private water supply. As each of the large and commercial supplies must be monitored in the first year of these Regulations, where a full risk assessment is yet to be completed, local authorities are advised **to carry out desk top risk assessments in the first year. These risk assessments can then be updated in the light of the monitoring results and used to adjust the audit monitoring suite accordingly**. If, subsequently, the local authority has evidence or suspicion that an excluded parameter may be present in significant concentrations it should include it on the next audit monitoring occasion. Local authorities should be aware that it is not appropriate under these Regulations to apply a standard monitoring suite to all supplies (i.e. this traditional laboratory practice under the 1991 Regulations should cease).

2.3.3.16 Table 3 provides information on how each possible parameter might arise in a private water supply together with criteria that could be used to decide on exclusion of a particular parameter from audit monitoring. In any particular case where local authorities are unable to reach a decision, advice can be sought from DWI.

Table 3: Examples of criteria for exclusion from audit monitoring

Parameter	Circumstances in which likely to be present	Criteria for exclusion from audit monitoring
Acrylamide	Use of polyacrylamides as coagulant aids. Use of polyacrylamide grouts for borehole/well linings.	Not used. If used control by product specification. Use only approved products. Cannot monitor in drinking water.
Aluminium	Use of aluminium compounds as coagulants. Occurs in some surface and ground waters.	Not used. Monitoring shows present in raw water or water supply at less than 50% of standard (100µg/l).
Antimony	Possible from domestic plumbing fittings.	Monitoring shows present in water supply at less than 75% of standard (3.75µg/l).
Arsenic	Present in some ground waters.	Monitoring shows present in raw water or water supply at less than 75% of standard (7.5µg/l).
Benzene	Contamination of raw waters from petrol/diesel etc. Permeation of plastic distribution and domestic plumbing pipes.	Risk assessment shows no petrol/diesel etc stores near raw water or distribution and low vehicular activity.
Benzo(a)pyrene	Leaching from internal coal tar lining of some distribution pipes.	Coal tar lining not used. If used monitoring shows present water supply at less than 75% of standard (0.0075µg/l).
Boron	Contamination of surface waters with detergents mainly from sewage effluents.	Monitoring shows present in raw water or water supply at less than 75% of standard (0.75mg/l).
Bromate	Present in sodium hypochlorite used to disinfect water, including electrolytically generated hypochlorite. Formed if ozone used and water contains bromide.	Sodium hypochlorite and ozone not used.
Cadmium	Leaching from galvanised pipes and some domestic plumbing fittings (e.g. plated taps).	Galvanised pipes not present. Monitoring shows present in water supply at less than 75% of standard (3.75µg/l).
Chloride	Indicator of saline intrusion so relevant in coastal areas. Also relevant if water softener in situ. May indicate sewage pollution of surface water.	Monitoring shows present in raw water or water supply at less than 75% of standard (187.5mg/l).
Chromium	Leaching from some domestic plumbing fittings (e.g. chrome plated plastic taps).	Monitoring shows present in water supply at less than 75% of standard (37.5µg/l).
Clostridium perfringens (including spores)	Contamination of raw waters from sewage, sewage effluents and animal waste.	None.
Copper	Leaching from pipes and plumbing fittings. Low pH and low or high alkalinity increases	Copper pipes not present in distribution or domestic plumbing. Monitoring shows

	copper leaching.	present in water supply at less than 50% of standard (1mg/l).
Cyanide	Possible contamination of raw waters from industry (e.g. metal finishing, wood preservatives).	Monitoring shows present in water supply at less than 75% of standard (37.5µg/l).
1,2 dichloroethane	Volatile solvent used in manufacture of vinyl chloride and other processes. Can contaminate and persist in ground water.	Risk assessment shows no sources near raw water or monitoring shows present in water supply at less than 75% of standard (2.25µg/l).
Enterococci	Contamination of raw waters from sewage, sewage effluents and animal waste.	None.
Epichlorohydrin	Use of polyamines as coagulant aids. Use of epoxy resins (e.g. to line pipes and tanks). Use to make some ion exchange resins.	None of these are used. If used control by product specification. Use only approved products. Cannot monitor in drinking water.
Fluoride	May be present in some ground waters.	Monitoring shows present in water supply at less than 75% of standard (1.125mg/l).
Iron	Use of iron compounds as coagulants. Occurs in some surface water and ground waters. Corrosion of iron distribution mains.	Not used. Monitoring shows present in raw water and/or water supply at less than 50% of standard (100µg/l).
Lead	Leaching from lead pipes in distribution and domestic plumbing or from lead soldered copper pipes. Low pH and low or high alkalinity increases lead leaching. Present naturally in some ground waters	Lead pipes not present in distribution or domestic plumbing. Lead soldered copper pipes not used. Monitoring shows present in water supply at less than 50% of standard (5µg/l).
Manganese	Present in some greensand filtration materials. Occurs in some surface water and ground waters.	Greensand not used. Monitoring shows present in raw water and/or water supply at less than 50% of standard (25µg/l).
Mercury	Contamination from mercury thermometers and float valves	No mercury thermometers or float valves used. Monitoring shows present in water supply at less than 75% of standard (0.75µg/l).
Nickel	Leaching from some domestic plumbing fittings (e.g. plated taps).	Monitoring shows present in water supply at less than 75% of standard (15µg/l).
Nitrate	Contamination of surface and ground waters from fertilisers, animal wastes or sewage effluents.	Monitoring shows present in raw water or water supply at less than 75% of standard (37.5µg/l).

Nitrite	Contamination of raw waters. Use of chloramination as a residual disinfectant or use of chlorine as disinfectant when ammonium ions present.	Monitoring shows present in raw water and/or water supply at less than 50% of standard (0.05mg/l).
Pesticides	Contamination of raw waters from use in agriculture, forestry, roads, railways etc.	Risk assess those pesticides used in catchment. Monitoring shows those used present in raw water and/or water supply at less than 75% of standard (0.075µg/l except aldrin, dieldrin, heptachlor and heptachlor epoxide – 0.0225µg/l).
Pesticides – total	This means the sum of the concentrations of the individual pesticides detected and quantified in the monitoring procedure.	Monitoring shows that the sum of those used is less than 75% of standard (0.375µg/l) in raw water and/or water supply.
Polycyclic aromatic hydrocarbons (PAH)	Leaching from internal coal tar lining of some distribution pipes. Sum of four individual PAH.	Coal tar lining not used. If used monitoring shows present in water supply at less than 75% of standard (0.075µg/l).
Selenium	May occur naturally in some raw waters.	Monitoring shows present in raw water or water supply at less than 75% of standard (7.5µg/l).
Sodium	Present in raw waters but usually below standard. Can be introduced by water softeners and treatment chemicals (e.g. sodium hypochlorite for disinfection) or through saline intrusion of ground waters in coastal areas.	Softeners or sodium based chemicals not used. Monitoring shows present in water supply at less than 75% of standard (150mg/l).
Sulphate	Occurs in some raw waters, but usual below the standard.	Monitoring shows present in raw water or water supply at less than 75% of standard (187.5µg/l).
Tetrachloroethene and Trichloroethene	Contamination of some ground waters from use of these volatile solvents in dry cleaning and metal finishing. Standard is sum of two compounds.	Risk assessment shows no sources near raw water or monitoring shows present in raw water or water supply at less than 75% of standard (7.5µg/l).
Tetrachloromethane	Contamination of some ground waters from use of this volatile solvent in metal finishing and other industries.	Risk assessment shows no sources near raw water or monitoring shows present in raw water or water supply at less than 75% of standard (2.25µg/l).

Total indicative dose (for radioactivity)	Contamination of raw waters from natural or manmade radioactive compounds.	Screening for gross alpha and gross beta activities shows that they are less than 0.5 and 1.0Bq/l respectively. Refer to separate HPA guidance to DWI
Trihalomethanes – total	Formed by reaction of organic matter in raw water with chlorine compounds used as disinfectants. Standard is sum of four compounds.	Chlorination is not used (chlorine or chlorine compounds). If chlorination used, monitoring shows present in water supply at less than 50% of standard (50µg/l).
Tritium	Cosmic production in upper atmosphere. By-product of nuclear explosions and nuclear industry.	Risk assessment of activities near raw waters. Monitoring shows present in raw water or water supply at less than 75% of standard (75Bq/l). Very unlikely to be present at significant concentrations.
Vinyl chloride	Used for making PVC. Leaching from unplasticised PVC pipes used in distribution or domestic plumbing.	Unplasticised PVC not used. If used control by product specification. Use only approved products. Cannot monitor in drinking water.

2.3.3.17 A local authority may include any other substance which is not a parameter in audit monitoring if it considers it appropriate from the results of the risk assessment. For example it could include silver, if silver or silver compounds are incorporated in any filtration system used to treat private water supplies (the WHO guidelines suggest that silver levels up to 0.1mg/l can be tolerated without risk to human health) or zinc if galvanised pipe work has been used in distribution or domestic plumbing (the WHO guidelines suggest that zinc levels over 3.0mg/l may be regarded as unacceptable by consumers).

2.3.3.18 Local authorities must monitor the audit monitoring parameters at the frequencies specified in Table 4. In the Regulations the frequencies are related to the volume of water supplied each day. However, for some private water supplies where the responsible person does not have volume records then the local authority should estimate the number of people supplied. The local authority should assume that each person supplied uses an average of $0.2m^3$/day (200 litres/day) and this has been incorporated into Table 4.

Table 4: Audit monitoring frequencies

Volume supplied (m^3/day)	No. of people supplied	Frequency (no. of samples per year)
≤ 10	≤ 50	1
> 10 ≤ 3,300	> 50 ≤ 16,500	2
> 3,300 ≤ 6,600	> 16,500 ≤ 33,000	3
> 6,600 ≤ 10,000	> 33,000 ≤ 50,000	4
> 10,000 ≤ 100,000	> 50,000 ≤ 500,000	3 + 1 for each 10,000m^3/day of the total volume (rounding up to the nearest multiple of 10,000 m^3/day)
> 100,000	> 500,000	10 + 1 for each 25,000m^3/day of the total volume (rounding up to the nearest multiple of 25,000m^3/day)

2.3.3.19 A local authority may increase the frequency of audit monitoring for a particular parameter if it considers it appropriate from the results of the risk assessment, for example because the risk assessment shows that the concentration or value of the parameter varies considerably.

Supplies in bottles or containers

2.3.3.20 If water is supplied in bottles and containers instead of, or to supplement, a private water supply, and it is not controlled under the Natural Mineral Water, Spring Water and Bottled Drinking Water (England) Regulations 2007, the water has to be monitored (check and audit) in accordance with the Regulations. The parameters required to be monitored are the same as described above except that Pseudomonas aeruginosa is included in the check monitoring requirements and the frequencies are as specified in Table 5.

Table 5: Minimum frequencies for water put into bottles or containers

Volume[(1)] of water produced in bottles or containers each day (m^3)	Check monitoring number of samples per year	Audit monitoring number of samples per year
≤10	1	1
>10≤ 60	12	1
>60	1 for each 5 m^3/day of the total volume (rounding up to the nearest multiple of 5 m^3/day)	1 for each 100 m^3/day of the total volume (rounding up to the nearest multiple of 100 m^3/day)

[1] The volumes are calculated as averages taken over a calendar year.

9(E).2.3.4 Regulation 10 – Other private supplies

2.3.4.1 The other private water supplies are referred to in this guidance as small supplies and they are defined as:

- any private water supply that provides less than 10m^3/day (or supplies less than 50 persons) where the supply is only used for domestic purposes (there is no commercial or public activity).

2.3.4.2 The small supplies include:

- any private supply that provides less than 10 m^3/day of water to two or more dwellings (or less than 50 persons); and
- any private supply that provides water to only one dwelling (referred to in the Regulations and in this guidance as a '**single dwelling'**.

2.3.4.3 The Regulations require a local authority to monitor all its small supplies (except a supply to a single dwelling) at least every five years and more frequently if required by the risk assessment for the following parameters:

- conductivity;
- Enterococci;
- *Escherichia coli* (*E.coli*);
- hydrogen ion (pH value);
- turbidity;
- any parameter in Schedule 1 to the Regulations identified in the risk assessment as being at risk of not complying with the concentrations or values in that Schedule; and
- anything else identified in the risk assessment as a risk to human health.

2.3.4.4 Local authorities should carry out the risk assessment and on the same visit take the samples for this monitoring, so that the risk assessment can inform whether additional parameters need to be included in the monitoring. Local authorities should only include additional parameters if there is reasonable evidence to suggest their presence at concentrations approaching or exceeding the standards or indicator parameter values in Schedule 1 to the Regulations.

2.3.4.5 A local authority may monitor a private supply to a single dwelling for the parameters described in paragraph 2.3.4.3 if it is concerned that there may be a potential danger to human health from the supply, but if it does so it may not charge the owner or occupier the cost of carrying out the monitoring. However, if the owner or occupier requests the local authority to carry out the monitoring, the local authority may charge the person making the request the cost of carrying out the monitoring up to the maximum specified in Schedule 5 to the Regulations.

9(E).2.3.5 Regulation 11 – Sampling and analysis

Sampling (compliance) points

2.3.5.1 Monitoring consists of two parts – taking the sample and then analysing the sample. Regulation 11 specifies the points from which the samples must be taken for different circumstances. In effect these are the points at which the standards and indicator parameter values in Schedule 1 to the Regulations must be met. Regulation 11 requires that the samples are taken:

- if the water is supplied for domestic purposes, from a tap normally used to supply water for human consumption, and which, if there is more than one tap, is representative of the water supplied to the premises;
- if the water is used in a food-production undertaking, at the point at which it is used in the undertaking;
- if the water is supplied from a tanker, at the point at which it emerges from the tanker; and
- in any other case at a suitable point.

2.3.5.2 Note that for two parameters, nitrite and turbidity, samples must also be taken from the water leaving treatment works (if there is a works). The sample point in this case must be located at the point where water enters the distribution main or leaves any treated water tank at the treatment works.

2.3.5.3 In domestic premises, local authorities should assume that the tap normally used to supply water for human consumption is the kitchen tap. In commercial premises and premises where public activities take place, local authorities need to assess which of the taps is the tap most usually used to provide water for human consumption (that is the tap that is most representative of the water consumed) and take the sample from that tap.

2.3.5.4 Private water supplies may serve between one and many hundreds of premises. Where only one premises is served, all samples should be taken from the tap normally used in that premises. Where more than one premises is served, each year the premises (in effect the taps) from which samples are taken should be selected at random using a system that ensures there is an equal chance of any of the taps being selected. Records should be kept of the selection system. For large supplies, samples should be taken from taps in premises representative of the whole distribution network, including the extremities of the network. Compliance samples should not be taken from the same premises on each sampling occasion. However, if the selected premises has a point of use treatment device, the sample should not be taken from that premises because the water will not be representative of the quality of water to other premises served by the private water supply (unless nearly all the premises served have these devices) and another premises should be selected as an alternative sampling point..

2.3.5.5 In a food production undertaking the sample should be taken at an appropriate point before it is used in the food production process. If the water is used “on line” the sample should be taken from an appropriate sampling point in the on-line system as close as possible to where the water enters the process. If the water is added from a container in a batch production system, the sample should be taken from the tap or pipe used to fill the container.

Deployment and monitoring of tankers

2.3.5.6 Local authorities or private water suppliers are only likely to supply water in tankers when there is a need to supplement a private water supply or provide an alternative because the private water supply has failed or poses an unacceptable danger to human health. Water tankers include any mobile or static water tank deployed on a temporary basis and include water bowsers. **Water tankers should be cleaned before use and only be filled with wholesome water from a known source, preferably a public water supply**. Consideration should be given to using water industry specialist emergency water suppliers – details obtainable from local water undertaker and DWI.

2.3.5.7 Local authorities are advised that provided a tanker is emptied and refilled within 48 hours of its deployment there is no need to carry out any monitoring. Any tanker that remains in use without refilling for between 48 and 96 hours should be monitored for *E.coli*, hydrogen ion and conductivity. Over 96 hours, monitoring for all the parameters in the Regulations is required. Further

monitoring for all parameters should be carried out after every additional 48 hours of continuous use of the tanker. Records should be kept of each deployment of a tanker, including filling and refilling and any monitoring undertaken. Local authorities and private water suppliers are advised that permanent notices must be displayed on any tanker, at a prominent position on the tanker, advising users of the water to boil all water for drinking and cooking (because the hygienic condition of the tap on the tanker or the containers used to collect the water cannot be guaranteed).

Requirements on sampling

2.3.5.8 Sampling is a very important part of the monitoring procedure. If the samples are not representative of the water supplied or the samples are not taken correctly, there is no point in carrying out expensive analysis, because the results will have little use. Therefore Schedule 3 to the Regulations has the very important requirement that each local authority must ensure that each sample is:

- taken by a competent person using suitable equipment;
- representative of the water at the sampling point at the time of sampling;
- not contaminated in the course of being taken;
- kept at such temperature and in such conditions as will secure that there is no material change in what is to be measured; and
- analysed without delay by a competent person using suitable equipment.

2.3.5.9 The local authority can arrange for any person to take the samples on its behalf provided it is satisfied that the person is competent to carry out the sampling. A person would be competent if thoroughly trained in drinking water sampling procedures and assessed as competent by the local authority. This training should include a course on the theory and practice of sampling procedures followed by supervised sampling in the field until the sampler has demonstrated competency in sampling procedures. A local authority may use its own personnel (there should be a satisfactory record of competency) or sampling personnel from the laboratory it uses to carry out analysis, in which case the local authority should ask to see the evidence of competency for each sampler used.

2.3.5.10 To satisfy these requirements, each local authority or the contracted person/organisation should have a sampling manual that sets out all the procedures and precautions that samplers should take for every aspect of the sampling process. The local authority may need to prepare this sampling manual in consultation with its laboratory or contract laboratory. There is a Private Water Supplies Sampling Manual: Field Guide, available for local authorities to use on the www.privatewatersupplies.gov.uk website, which has been agreed by all UK Regulators. This manual is to act as a field guide to standardise general sampling of these regulations. It may be worth the local authority contacting its local water undertaker because it will have a sampling manual and training resources audited by DWI. The sampling manual should set out the predetermined compliance check and audit monitoring programme, details of where the samples are to be taken for each different private water supply and the parameters to be tested. The sampling manual should contain the procedures and precautions for the following:

- in respect of 'chemical and physical' parameters, the:
  - types of bottles/containers/lids;
  - cleaning procedures for the bottles/containers/lids;
  - preservatives to be added to bottles;
  - type of sample (first draw, flushed etc) and the sequence for taking each sample from the sampling point (**when a sample is required for lead** (and copper and nickel) **this sample must be taken first** (before samples are taken for other parameters) **and consist of the first one litre to issue from the tap without any flushing)**;
  - storage and transport conditions for each type of sample; and
  - time allowed before analysis commences (depends on the stability of the parameter).
- in respect of 'microbiological parameters', the:
  - bottle type, bottle closure and bottle shelf life specification;
  - method and conditions of bottle and bottle closure sterilisation and incorporation of any disinfectant neutralising reagent;

- arrangements to avoid accidental contamination during sampling;
- sequence of taking samples when ‘non-microbiological’ samples are also being taken;
- guidance for selection of taps for sampling and for example in respect of consumers’ taps any features to be avoided (such as tap inserts);
- precautions for sampling from taps in consumers’ premises;
- preparation, cleaning, disinfection and flushing of taps for sampling;
- storage and transport conditions and arrangements for cooling samples;
- cleaning of sample boxes;
- time limits for starting sample analysis (ideally the same day, in exceptional circumstances the next day); and
- arrangements for keeping samples cool in the laboratory if there are delays between receipt and examination.

- In respect of all samples, the sampler must:
  - have a written work list showing all samples to be taken;
  - have a log sheet that can be filed for record purposes;
  - record the reasons for postponing or cancelling compliance samples on the log sheet;
  - fix securely a sample label with a unique sample number to the sampling container;
  - record clearly the unique sample number, location (address/site and grid reference), date, time and sampler identification on the log sheet;
  - record clearly all field measurements and observations at the time they are made on the log sheet and make sure they are associated with the correct samples and containers; and
  - for samples to be taken from consumers’ taps, the sampler show his/her ID (identification) or otherwise establish their bona fides and advise the consumer that they can check the sampler's bona fides by telephoning the local authority or the laboratory.

- all samples should be transported as quickly as practical to the laboratory in a sampling vehicle that, as a minimum, meets the following advice:
    - it is clean and has adequate storage facilities for empty sample containers and for containers filled with samples;
    - it has provision for keeping samples cool and for cooling samples, when necessary;
    - it is not used for any purpose that might cause contamination of samples; and
    - its interior and cool boxes/refrigerators are regularly cleaned and maintained.

2.3.5.11 The local authority must be satisfied that the laboratory is commencing the analysis for each parameter within an appropriate time scale for that parameter so that there is no material change in the concentration or value or state of that parameter. The laboratory must maintain records for inspection.

2.3.5.12 Details of recommended sampling procedures for microbiological parameters are given in *The Microbiology of Drinking Water 2002 Part 2* and BS EN ISO 19458. The general information on sampling procedures is given in BS ISO 5667 *Part 5 (Water Quality Sampling; Part 5: Guidance on sampling of drinking water from treatment water and piped distribution system*. Further guidance can be found in *General Principles of Sampling and Accuracy of Analytical Results* in the series *Methods for the Examination of Water and Associated Materials* published by the Standing Committee of Analysts. Detailed information for individual parameters or groups of parameters is given in the individual booklets in the same series.

2.3.5.13 The majority of samples taken will be routine samples, and part of the annual sampling programme. These samples are taken as verification that the control measures identified in the risk assessment are working effectively. Therefore a sampling procedure based on the above standards, specification and good practice should be sufficient for routine samples. The local authority must be satisfied that the sampling is carried out by a competent person using a documented sampling procedure. However, a local authority may choose to carry out formal sampling if their policy dictates this. With these regulations the offence is based on non-compliance with a notice where there is a potential danger to human health. The determination of a potential danger to human health is based on a number of

factors, including outcome of an investigation, complaints, the risk assessment finding, previous results from the supply, management of the supply, advice from the HPU, as well as the results of the sample.

Requirements for analysis of samples

2.3.5.14 Analysis is a very important part of the monitoring process. If the analysis is not carried out correctly and accurately the results will be of no use, as a local authority will not know whether a private water supply complies with the standards in the Regulations. Therefore, Schedule 3 to the Regulations has the very important requirements that each local authority must ensure that its laboratory analyses:

- the microbiological parameters using the methods specified in Table 1 of Schedule 3 (reproduced as Annex 2 of this guidance) or a different method authorised by the Secretary of State;

- the parameters specified in column 1 of Table 2 of Schedule 3 (reproduced as Annex 3 of this guidance) using methods that are capable of measuring concentrations or values with the trueness and precision specified in the second and third columns, and detecting the parameters at the limits of detection specified in the fourth column of that table;

- the hydrogen ion (pH value) with a method of analysis capable of measuring a value with a trueness of 0.2pH unit and a precision of 0.2pH unit; and

- the odour and taste parameters with a method capable of measuring values equal to the parametric value with a precision of one dilution number at 25°C.

2.3.5.15 The standard for odour and taste is ‘acceptable to consumers and no abnormal change’. This implies a qualitative assessment for which a trueness and precision cannot apply. However, DWI requires water undertakers to carry out a quantitative assessment in which case the above trueness and precision values apply. Local authorities are advised to follow this practice. A quantitative assessment is where a small panel of assessors taste or smell the water and dilutions of the water and estimate the taste or odour as a dilution number. **Local authorities should be aware of the health and safety risks of carrying out qualitative and quantitative odour and taste measurements (on-site or in the laboratory), more so with the taste (rather**

than odour), because private water supplies could be contaminated with harmful microorganisms.

2.3.5.16 The Regulations define the performance of methods (trueness, precision and limit of detection) as follows:

- 'trueness' (the systematic error) is the difference between the mean value of the large number of repeated measurements and the true value.
- 'precision' (the random error) is twice the standard deviation (within a batch and between batches) of the spread of results about the mean;
- 'limit of detection' is:
  - three times the relative within-batch standard deviation of a natural sample containing a low concentration of the parameter; or
  - five times the relative within-batch standard deviation of a blank sample;

2.3.5.17 The Minister, in practice the DWI, may authorise the use of an alternative microbiological method to that prescribed, provided that DWI is satisfied the alternative method gives equivalent results to the prescribed method. Any local authority or its laboratory or contract laboratory that wishes to use an alternative method should contact DWI for details of the authorisation procedure and its requirements.

2.3.5.18 The local authority must ensure its laboratory or contract laboratory analyses the samples using a system of analytical quality control that is subject to checking by a person:

- not under the control of either the analyst or the local authority; and
- approved by the Minister (DWI) for that purpose.

2.3.5.19 Laboratories may meet this requirement by achieving ISO 17025 accreditation for its analysis and analytical quality control from the United Kingdom Accreditation Service (including the enhanced specification of requirements to meet the drinking water regulatory requirements called the Drinking Water Testing Specification (DWTS)), or through inspection by the DWI. DWI only inspects laboratories carrying out analytical work for public water supplies. Laboratories analysing public water supply samples for statutory water undertakers and licensed water suppliers will satisfy this requirement.

2.3.5.20 The local authority may make arrangements with any person (laboratory) to carry out the analysis on its behalf, including its own laboratory. But it must be satisfied that the person (laboratory) is competent to carry out the task and will meet all the requirements in the Regulations in respect of analysis of samples. The persons carrying out the analysis must be fully trained in the analytical methods they use. The local authority must ensure that any failure to meet a standard or indicator parameter value is communicated to it immediately the result is known and that all other results are provided within 28 days. Guidance on the competence requirements for analysts and supervisory staff is attached to DWI Information Letter 08/2007 www.dwi.gov.uk/regs/infolett/2007/info0807.shtm

2.3.5.21 The Regulations also require that samples are analysed 'using suitable equipment'. In addition to equipment being of the type specified in the analytical procedure, it must comply with each of the following requirements before it can be regarded as suitable for the purpose:

- located and used in appropriate conditions;
- maintained according to the manufacturer's recommendations or auditable equivalent procedures;
- have a current calibration that is both valid and traceable to national and international standards;
- be used in accordance with the manufacturer's operating instructions or auditable equivalent procedures; and
- demonstrably comply with all system suitability and analytical quality control criteria.

On-site analysis

2.3.5.22 Most of the samples taken by, or on behalf of, local authorities will be analysed for nearly all the parameters at laboratories. However, local authorities or their contractors may analyse some parameters on site provided that all the requirements for sampling and analysis in the Regulations are met. This means that the person carrying out the analyses must be fully trained and competent. The method used must meet the performance characteristics, the method (equipment) must be calibrated regularly (at least every day of use) and analytical quality control must be practised. Appropriate records of on-site sampling and the analysis procedures and results, including calibration and analytical quality control must be kept. Examples of parameters

that may be analysed on site with suitable equipment are: **conductivity, hydrogen ion (pH value), turbidity and chlorine residual**. Local authority laboratories or their contract laboratories can obtain accreditation for on-site analysis from UKAS or be subject to inspection by DWI or a competent person appointed by DWI.

2.3.5.23 Comprehensive guidance for laboratories on analysis of samples, including performance testing and analytical quality control, is given in Appendix 1 of the DWI guidance on the public water supply regulations[13].

9(E).2.3.6 Regulation 12 – Maintenance of records

2.3.6.1 Regulation 12 requires each local authority to maintain a record of the total number of private water supplies in its area and an **initial record**, to be completed **by 30 June 2010 in England and 31 July 2010 in Wales**, which for **each private water** supply includes (the regulatory requirements are in italics with guidance on the detail that DWI requires in the local authority's annual report in normal type – see section 9(E).2.3.7):

- the name of the supply, together with a unique identifier;
- the type of source. There are three categories of sources: (1) surface waters (rivers, streams, lakes, reservoirs); (2) ground waters (springs, wells, boreholes) that are not influenced by surface waters; and (3) mixed sources which are ground waters that are influenced by surface water. For ground water the geological strata should be recorded);
- the geographical location using a grid reference – this means the 12 figure ordnance survey grid reference (Easting and Northing) of the location of the source, as close as possible to its known location (as the precise location of the source may not be obvious);
- an estimate of the number of people;
- an estimate of the average daily volume of water supplied in cubic metres (using 0.2m^3/day per person, which is 200 litres per person per day);
- the type of premises supplied (for example private domestic dwellings, hotels, bed and breakfast establishments, schools,

[13] (http://www.dwi.gov.uk/guidance/Guidance%20%20to%20WS(WQ)%20Regulations_October2008_FINAL.pdf)

colleges, hospitals, public libraries, food production undertaking etc);

- detail of any treatment process, together with its location (examples of treatment processes include collection chambers, blending, coagulation and flocculation, clarification, settlement, sedimentation, aeration and oxidation, filtration, ion exchange, membranes, disinfection); and

- the name of the HPU in whose area the supply is located (the address, telephone/fax/e-mail, and contact person).

2.3.6.2 The local authority must review and update that initial record at least once a year and should do so as soon as practical after any significant change in circumstances (for example installation of a new treatment process). For supplies to single dwellings and supplies of $10m^3$/day or less that are not part of a commercial or public activity, local authorities must update the records when they are aware of any changes (such as a new risk assessment, or result of monitoring or other information about the supply). This information can be gathered during a general visit to the supplies (not related to a water supply) or as a desk top exercise through questionnaires, etc. This record must be kept for at least 30 years.

2.3.6.3 The local authority is also required to include in the record for each private water supply within 28 days of completion of each of the following (the regulatory requirements are in italics with guidance on the detail that DWI requires from the local authority in normal type) – see section 9(E).2.3.7):

- a plan and description of the supply – this schematic plan forms part of the risk assessment and should show/describe the source, the treatment and distribution network (including inspection chambers or storage tanks);

- the monitoring programme for the supply – (number of samples planned for the year, number of samples taken during the year and whether supply closed/or was no longer in operation or new supply sourced during the year);

- the risk assessment (the result of the risk assessment);

- the date, results and location of any sampling and analysis relating to that supply, and the reason for taking the sample (routine programmed compliance sample (distinguishing whether the samples is an audit or check monitoring sample),

investigation of failure, request from owner/occupier, complaint or operational incident);

- the results of any investigation (of a failure to meet a standard or indicator parameter value) undertaken in accordance with the Regulations; whether the supply has been determined as a potential risk to human health or not, and whether there is an informal or formal action plan. This could cover improvements to the source (like fencing, diversion ditches), improvement works to collection chambers, storage tanks or inspection chambers, the distribution network (such as pipe work or values), and/or any treatment processes (either on the supply or at individual properties);

- any authorisation (granted by the local authority for that supply) – the parameter, maximum concentration or value authorised, the remedial action and duration;

- any notices served under section 80 of the 1991 Act (or regulation 18) – brief details of the action required by the notice and whether the notice been compiled with by the date specified in the notice;

- any action agreed to be taken by any person under the Regulations (whether action agreed informally or by means of an authorisation or a notice);

- any request for the local authority to carry out sampling and analysis, undertake a risk assessment or give advice (reason for request – such as complaint, prospective house purchase, complaint from a tenant); and

- a summary of any advice given in relation to the supply (and who the advice was given to).

2.3.6.4 The local authority must retain the information in the record relating to the risk assessments and sampling and analysis for at least 30 years and it must retain the other information for at least five years.

9(E).2.3.7 Regulation 13 – Notification of information

2.3.7.1 This regulation requires each local authority to send to the Minister (in practice the DWI) a copy of each record it has maintained under the requirements of regulation 12. The DWI will issue separate advice to local authorities on the format of the record so that it can be submitted electronically.

2.3.7.2 If a local authority becomes aware of an outbreak of illness associated, or suspected to be associated, with a private water supply or an incident involving a private water supply that has attracted, or is likely to attract, significant local or national publicity, it should inform the DWI immediately. Additionally, if any such incident is as a consequence of a pollution incident in the catchment, it should inform the local office of the Environment Agency (EA) immediately so that the EA can investigate the pollution and take appropriate action as the competent authority for the quality of environmental surface and ground waters.

9(E).2.4 Part 3 Action in the event of failure and Part 4 Notice procedure

9(E).2.4.1 Introduction

2.4.1.1 Part 3 and Part 4 of the Regulations provide a comprehensive system for local authorities to enforce the Regulations by making sure that consumers are protected whenever there is a potential danger to human health by serving a notice on the relevant person requiring prohibition or restriction of use of the private water supply and by making sure that whenever a private water supply is unwholesome (including when it is a potential danger to public health), serving an appropriate notice on the relevant person requiring improvements to the supply to make it wholesome.

2.4.1.2 The order and construction of the individual regulations in these two parts does not match the order in which local authorities will actually proceed when there is a failure. In general, when there is a failure the process outlined in Figure 1 and explained in the following paragraphs should be followed as this will enable the risk assessment to be taken into account.

Process

2.4.1.2.1 Consider with the local HPU whether the failure is a potential danger to human health.

2.4.1.2.2 If there **is a potential danger** to human health, the local authority must:

- first ensure that consumers are informed as required by regulation 14 and given advice to enable them to minimise the danger (see Section 9(E).2.4.2);
- then serve a notice under regulation 18 (see Section 9(E).2.4.6) on the relevant person (provided the serving of the notice will not cause a greater potential danger) requiring the prohibition or restriction of the use of the supply and specifying what other action is necessary to protect human health (such as improvements to the supply, if these are known at the time);
- inform consumers of the notice and provide any necessary advice (likely but not necessarily the same as that required by regulation 14);

- carry out an investigation to determine the cause of the failure which will inform the local authority about the improvements necessary if not already known; and

- if necessary, amend the notice served under Section 18 regarding the necessary specified improvements to the supply, if informal negotiations to agree improvement works are unsuccessful.

2.4.1.2.3 If there is **not a potential danger** to human health, the local authority must:

- carry out an investigation to determine the cause of the failure which will inform the local authority about the improvements necessary – once it has completed the investigation the local authority should negotiate informally with the relevant person to obtain their agreement to carrying out the improvements required without the need for enforcement. If the relevant person does not agree to do this:

  - either grant an authorisation for a relaxed (lower) standard to the relevant person with a condition that the relevant person carries out specified improvements within the period of the authorisation (maximum of three years); or

  - serve a notice under Section 80 of the 1991 Act on the relevant person requiring the relevant person to carry out specified improvements within the period specified in the notice.

    For example, where a supply fails to comply with the concentration or values specified in Part 1 of Schedule 1, (regulation 4 (b)), the local authority are advised to consult the HPU to determine if the level of failure is not a potential danger to human health (regulation 4 (a)). If the local authority determines that the supply is unwholesome, this is because all the conditions in regulation 4 (a), (b) and (c) must be met for the supply to be wholesome. The local authority would either negotiate informally to agree the appropriate improvement works or take formal action under Section 80 of the 1991 Act or grant an authorisation.

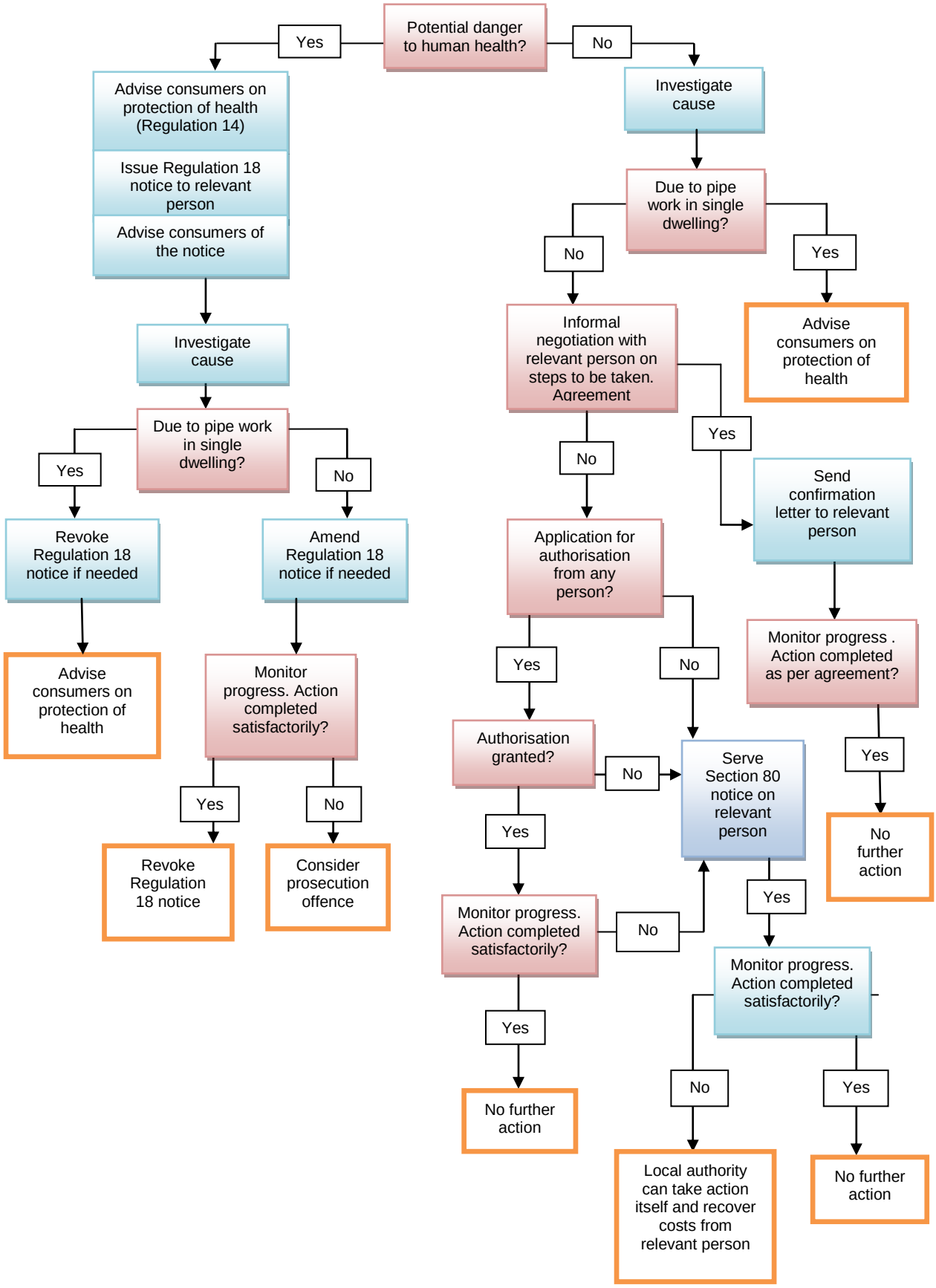
2.4.1.2.4 If there is insufficient information initially to determine whether there is a potential danger to human health, the local authority must:

- carry out an investigation in consultation with the local HPU to determine whether there is a danger (usually additional monitoring is needed) and the cause of the failure. This will

inform the local authority about the improvements necessary and help determine which of the options above are the appropriate action for the local authority to take.

2.4.1.2.5 If the investigation shows that the cause of the failure is solely due to the condition or maintenance of the pipe work and fittings within a single dwelling (that is not used for any commercial or public activity), the local authority must promptly inform the consumers concerned and offer them advice on the measures necessary to protect their health. If a notice under regulation 18 had been served previously on a relevant person for the whole of the private water supply, the local authority would need to revoke that notice, but if necessary it may serve a new regulation 18 notice on the owner/occupiers of the single dwelling (see regulation 16(3)(b)).

Figure 1: Action in the event of failure



Meaning of 'relevant person'

2.4.1.3 The Regulations make reference to **relevant persons** in connection with serving notices under Section 80 of the 1991 Act and under regulation 18. Under Section 80(7) of the 1991 Act the meaning of relevant person is as follows:

- the owner or occupier of the premises supplied; and
- the owner or occupier of the premises where the source of the supply is situated even if the source lies outside the local authority's area; and
- any other person who exercises powers of management or control in relation to that source.

2.4.1.4 When a local authority finds that a private water supply fails to meet the standards or is a potential danger to human health, it may be required to issue a notice under Section 80 of the 1991 Act or under regulation 18 of the Regulations on one or more **relevant persons** requiring improvements to be made in respect of that supply. The definition of relevant person above is intended to provide sufficient flexibility to take account of the wide variety of arrangements by which people access private water supplies. Local authorities are likely to already have information on the relevant person(s) for larger supplies and those monitored under the former 1991 Regulations.

2.4.1.5 Sometimes it is relatively easy to identify the relevant person(s), for example:

- a source (with or without treatment) on the land of an owner-occupied farm that supplies water to the farm and some farm cottages – the relevant person is the owner of the farm;
- a source (with or without treatment) on the land of a tenanted farm that supplies water to the farm and some farm cottages – the relevant person may be the owner of the farm or the tenant of the farm depending on the tenancy agreement/contract; and
- a source (with or without treatment) within the premises of an educational, medical or similar establishment that supplies water to the establishment and to houses/flats within the premises – the relevant person is the owner of the establishment, but there may also be an outsourced facilities manager (as set out in any contract).

2.4.1.6 However, sometimes it can be difficult for local authorities to determine the relevant person(s) because the source may not be

on land owned by any of the premises supplied and/or nobody accepts responsibility for the source or the supply and there are no records about the source/supply. For example:

- the source is on land owned by someone whose premises is not supplied and who does not accept responsibility for the source. If action is needed at the source (for example to prevent contamination from animals), under the 1991 Act the relevant person is the owner or occupier (such as a tenant) of the land. However, this situation may be contentious and the best remedy is negotiation between all those concerned, e.g. the landowner, occupiers of the land, the local authority and the owners/occupiers of the premises supplied and agreement on the required action and who pays for it (the users of the private supply will not wish to lose the source). If the action required is installation of treatment, the relevant person will be one or more, possibly all collectively, of the owner of the land and the owners/occupiers of the premises supplied depending on the actual supply arrangements and any agreements. Where there is no clarity about those responsible for the supply then the local authority should assume that the owners/occupiers of the premises are collectively responsible and are all relevant persons. The person who owns or occupies the land on which the source is located has a duty to ensure that he/she does not cause pollution of the source and must also allow access to the land for other persons to carry out works to protect the source for example by fencing off the source (this may mean restricting the use of the land inside the fence).

- there are three private dwellings A, B and C, who are owners or occupiers. The borehole source is on A's land. None of A, B or C manages or controls the borehole. The owner/occupier of A should have responsibility for preventing contamination of the borehole from contamination arising from A's land. If any works are required to protect the source, this could be the deemed the responsibility of A, B and C collectively. As above, this could mean protecting the source by fencing, etc, to prevent contamination from animals or limiting activities around the source which could contaminate it. However, if treatment is required (for example disinfection), the owners/occupiers of A, B and C could be deemed collectively the relevant persons even if the treatment is installed at the borehole on A's premises. They are likely to be collectively responsible for the restriction of the supply. (See Section 9(E). 2.4.6.9.).

9(E).2.4.2 Regulation 14 – Provision of information (to consumers)

2.4.2.1 Whenever a local authority is aware from monitoring of a failure to meet a standard or an indicator parameter value, or aware from its risk assessment or any other event such as a breakdown of pumps or treatment, it must consider whether there is a potential danger to human health. In making this decision, the local authority should consider any relevant advice from the local HPU and if there is a potential danger to human health, the local authority must take appropriate steps under this regulation. **Note that the local authority must also serve a notice on the relevant person under regulation 18)** to ensure that the people likely to consume that water are (an example of a regulation 18 notice can be seen at Annex 4):

- informed that the supply constitutes a potential danger to human health;
- where possible, informed of the degree of the potential danger; and
- given advice to allow them to minimise any such potential danger.

2.4.2.2 The local authority should seek advice from the local HPU on the guidance to be given to consumers when a supply fails. This advice can be sought in advance of the situation arising, with a policy being developed, which sets criteria for situations when a boil water notice would be issued. This advice should also take into account the wider risks posed by restricting use of the supply and agree the criteria for withdrawing the advice. Examples of restrictions are:

- to boil all water for drinking, food preparation, and cooking (when there is a failure of a microbiological parameter or a failure of the disinfection process);
- to run off the water standing in the pipe work to waste before drawing water for drinking, food preparation, or cooking (when there is a failure of the lead, copper, nickel or antimony parameters) until the pipe work or fittings within the premises contributing to the failure have been replaced;
- not to use water for drinking, food preparation, and cooking (when there is a significant failure of a chemical parameter that represents an immediate risk to human health), in this case consumers will require an alternative supply in tankers, bottles or other containers;

- not to use water for washing when there is a significant failure of a chemical parameter that represents a potential danger to human health, if inhaled or is absorbed through the skin or penetrates the skin through open cut or wounds. In this case, consumers should be advised to use an alternative supply. The alternative supply provided by the relevant person could be from tankers, bottles or other containers.

2.4.2.3 As such advice needs to be issued quickly, the local authority should have standard pro forma letters prepared for each of the above scenarios in which the name of the supply and the premises affected can be inserted. These letters can then be immediately distributed by the local authority to all affected premises. Clearly to be able to do this, the local authority must keep a record of all the premises supplied by each private water supply. If the relevant person has not provided the local authority with this information on request, the local authority can use its powers under Section 85(1) to serve a notice on any person requiring that person to provide the information including the pro forma wording of the advice in the notice.

9(E).2.4.3 Regulation 15 – Investigation

2.4.3.1 This regulation requires that whenever there is a **failure** to meet a standard detected by monitoring or whenever it is suspected for other reasons (risk assessment, operational incident, compliant) that there could be a failure, the **local authority must carry out an investigation to determine the cause**. In some cases the cause of the failure will be obvious, for example a pollution incident affecting the raw water source or a failure of a treatment process at the treatment works or a point of use treatment device. In other cases when the cause of the failure is not immediately evident, the local authority will need to mount a detailed investigation which could involve inspection of the raw water catchment/source, any treatment processes, the distribution network including any tanks or pipe work and fittings within premises and the taking of further samples from appropriate points throughout the private water supply system.

2.4.3.2 The investigation has to determine whether the cause of the failure occurred within the private water supplier's system (raw water, treatment or distribution) or whether it occurred within the pipe work (domestic plumbing and fittings) within premises. Failures of microbiological parameters could be caused by the nature or design of the domestic plumbing or the hygienic condition of the tap from which the sample is taken. The local

authority should investigate microbiological failures by taking further samples as follows:

- from the original sample point in the premises, a swab of the internal surfaces of the tap outlet followed by water samples before and after disinfection of the tap;
- from an another tap directly connected to the distribution system in the same premises and/or a consumer's tap in adjacent or nearby premises on the same supply;
- from upstream and downstream points in the distribution network of the private water supplier; and
- from any abstraction point, treatment works and tank in the distribution network (a check on the operation of these facilities should be carried out at the same time).

2.4.3.3 There will be a strong indication that the failure is attributable to the condition of the pipe work within premises in any of the following circumstances:

- the failure to meet the standard recurs at the original sample tap in the premises, but all other samples meet the relevant standards;
- the failure to meet the standard recurs in a sample taken before disinfection of the original sample tap, but a sample taken following disinfection meets the relevant standard and all other samples meet the standard;
- the failure to meet the standard does not recur at the original sample tap, but Enterococci or *E.coli* are recovered from a swab sample taken from the surfaces of the tap and all other samples meet the standard; or
- the failure can be shown to be attributable to an upstream device e.g. water softener, filter or point of use treatment device or from some other unit connected to the domestic plumbing e.g. washing machine or dishwasher.

2.4.3.4 Failures of the standards for copper, lead and nickel are commonly, but not exclusively, associated with the pipe work and fittings within premises. Failures for copper or lead may be due (in part) to pipes in the distribution network of the private water supplier. The local authority should investigate the extent of these interactions by taking additional unflushed samples following defined periods of stagnation at that premises and from

taps at nearby premises. Visual checks should also be carried out for any lead piping supplying the tap in the case of a lead failure. In the absence of any lead pipe, it should be remembered that lead can occur naturally in the source water and in copper plumbing systems where lead solder has been used. Failure of the standard for copper may occur in premises with new copper plumbing and in most situations is likely to stop once the copper pipe has built up a protective layer. Situations that exacerbate and extend the problem are very long runs of pipe connected to fittings which are used infrequently, localised warming of such pipework and water with a low alkalinity and low or high pH.

9(E).2.4.4 Regulation 16 – Procedure following investigation (remedial action)

2.4.4.1 Once a local authority has carried out an investigation and established the cause of the failure, it must take action to restore the water quality so that it is wholesome. In the case of a failure of an indicator parameter concentration or value, the local authority is only required to take action if the nature and extent of the failure poses a potential danger to human health.

2.4.4.2 If the local authority is satisfied from its investigations that the cause of the failure is the pipe work (and fittings) within a single dwelling (where the water is used for drinking, food preparation and cooking and is not used for any commercial or public activity), the local authority must promptly inform the people concerned and offer them advice on measures necessary for the protection of human health.

2.4.4.3 If necessary, the local authority may serve a notice under regulation 18 on the owner/occupiers of the single dwelling requiring action to be taken (see regulation 16(3)(b)). Examples of the advice that may be offered, or the action that may be required to be taken, are:

- for a microbiological failure, to remove inserts from the tap and thoroughly clean and disinfect the tap or replace the tap or, if the tap is connected to a tank, clean, disinfect and adequately cover the tank, and pending that action advise consumers to boil water for drinking, food preparation and cooking if the local authorities consider the failure a potential danger to human health. Any relevant advice from the HPU should be taken into consideration at this stage;

- for failures of the lead parameter, to replace the lead pipe work with copper or plastic pipe work, and pending that action to flush to waste water standing in the pipe work before drawing water for drinking, food preparation or cooking; or

- relocate an upstream appliance (for example a water softener) downstream of the kitchen tap.

2.4.4.4 When there is a failure that is caused by some event within the private water supply system (source, treatment works or distribution network) or something within the pipe work (and fittings) in premises that are used for commercial or public activities, the local authority must take action to secure compliance. **Any relevant advice from the HPU should be taken into consideration at this point. If, the local authority believes the failure constitutes a potential danger to human health, the local authority must serve a notice under regulation 18.** (see Section 9(E).2.4.6). (See Annex 4 for an example of a Notice)

2.4.4.5 If the failure does not constitute a potential danger to human health, the local authority must take action under regulation 16. In the first instance the local authority should hold informal discussions with the relevant person or persons about the reason(s) for the failure and the potential solutions to rectify that failure. The local authority should attempt to persuade that person (or persons) to take the most appropriate remedial action within a reasonable timescale. If the person (or persons) agrees to take the action, the local authority should confirm that in writing and then monitor progress. If the action is completed within the agreed timescale or is going to be completed within a reasonable period thereafter, and subsequently is completed within that extended timescale, the local authority does not need to take any further action. Any permitted delay in completing action should be for a reason beyond the control of relevant persons, such as awaiting delivery of materials from a supplier or planning permission.

2.4.4.6 However, if the person (or persons) do not agree informally to take the action and the local authority has not granted an authorisation under regulation 17 (see Section 9(E).2.4.5), or the person agrees to take the action but does not progress it satisfactorily, **regulation 16 requires the local authority to serve a notice under Section 80 of the 1991 Act** on the relevant person (or persons) requiring them to take action. In this guidance this notice is referred to as an '**improvement notice'**. An improvement notice must specify the improvements to be made to the supply (which could include connection to the public

water supply), the person who is to carry out, or arrange to carry out, the remedial work and the time by which the work must be completed.

2.4.4.7 Where a private water supply serves premises in more than one local authority area, Section 80(4) of the 1991 Act requires that **either**:

- the local authorities act jointly in serving the improvement notice; **or**

- one local authority serves the improvement notice with the consent of the other local authorities.

2.4.4.8 An improvement notice must also specify a period of not less than 28 days after the date on which the notice is served, within which any person can make representations or raise objections about the notice to the local authority. When serving the notice the local authority should advise the person (or persons) about the procedure for making representations or objections, including an address (or fax or e-mail) to which they can be sent. If no representations are received by the end of the period, the notice takes effect from that date. If a local authority receives such representations or objections, it should hold discussions with the persons concerned to attempt to resolve the difficulties and to get the representations or objections withdrawn. If the local authority accepts that the representations or objections are valid, it may withdraw the notice and serve a new modified notice. Where there are representations or objections that are not withdrawn, the local authority is required by Section 81 of the 1991 Act to send the notice to the Minister (in practice DWI) for confirmation. Before deciding whether or not to confirm a notice, DWI may:

- deal with the matter by **written representation**. The local authority will be invited to comment on the representations or objections. Those comments will be sent to the objector who will have the opportunity to make their own comments which in turn will be sent to the local authority. Once this procedure is exhausted, the DWI will come to a decision; **or**

- deal with the matter by holding a **private hearing**. Generally this will be appropriate when the owner of the supply has made an objection and no other person is affected by the outcome. A DWI Inspector will hold this informal hearing with only the local authority's representative and the owner and/or owner's representative present. Once the Inspector has heard and questioned both parties, the Inspector will come to a decision; **or**

- deal with the matter by a **public local inquiry**. This comprises the local authority and any person who has made a representation or objection or any other person who may be affected by the outcome to be heard by the DWI Inspector presiding at the inquiry. The local authority and any person can present their respective cases and be questioned by the Inspector. Once the inquiry is completed, the Inspector will come to a decision.

2.4.4.9 Once a decision has been reached the DWI may:

- confirm the improvement notice with or without modification and direct the local authority to serve the notice of confirmation on the person (or persons) served with the original notice; **or**

- direct the local authority to serve an improvement notice, in such terms as specified in the direction, on any relevant person not previously served with a notice; **or**

- not confirm the improvement notice, in which case the notice does not come into effect.

2.4.4.10 Once a Section 80 improvement notice has taken effect, the local authority should monitor progress with the remedial action to satisfy itself that the steps specified are being taken as specified in the notice. Where the relevant person (or persons) has not taken the specified steps within the specified period then the local authority has the power to take the steps itself and to recover any costs it reasonably incurs from the person (or persons) on whom the notice was originally served. Section 83 of the 1991 Act includes powers for a local authority to carry out steps associated with improvements to private water supplies, including entering private land whether or not it belongs to the owner or users of the private supplies (see Section 9(E).2.6.1 for powers of entry). This power enables a local authority to lay pipes across land belonging to a person who had refused to allow the relevant person access to the land for that purpose.

Insufficiency of private water supplies

2.4.4.11 The Regulations do not deal with private water supplies that are insufficient for normal domestic purposes. An ongoing lack of sufficient water poses a potential risk to human health if there is not enough water for drinking, food preparation and cooking, and personal hygiene, for example washing and toilet flushing. The 1991 Act gives local authorities the power to serve a Section 80 notice on a relevant person(s) requiring action to deal with the

insufficiency. This power should only be used if the relevant person(s) does not take the necessary action voluntarily. If this notice is not complied with, the local authority has a power to take any steps specified in a Section 80 Notice and recover any reasonable expenses incurred. (The powers are detailed in Section 82 of the Water Industry Act 1991) (Also see Section 9(E).2.2.2.2. for the provision of an alternative supply in the case of insufficiency of a supply). Local authorities must ensure that procedures and policies are established to deal with these situations.

2.4.4.12 There are a number of situations when an insufficiency of supply may occur as set out below (these are illustrative and are not exhaustive):

- the source of the private water supply does not provide enough water for all the premises supplied – if the matter cannot be resolved informally, the local authority should serve a Section 80 notice requiring appropriate steps to deal with the insufficiency (such as increasing the amount supplied from the existing source, providing a new supply or supplementing the existing supply with another source or increasing storage capacity to allow for peak demand or require a connection to a public supply provided by a statutory water undertaker or a licensed water supplier);

- the source of the supply becomes permanently contaminated (for example pollution of ground water with oil or solvents) and the contamination cannot be removed by any reasonably practical means so that the supply has to be closed – if the matter cannot be resolved informally, the local authority should serve a Section 80 notice requiring appropriate steps to be taken to replace the supply which could include connection to a public supply;

- the supply is unwholesome and the relevant person is unwilling to take action and decides to shut down the supply – if the matter cannot be resolved informally, the local authority should serve a Section 80 notice requiring the relevant person to resume the supply – if the person fails to do so the local authority (or its agent) can take that step itself and recover the costs from the relevant person(s) – in some cases the owners/occupiers of the premises served either singly or collectively may accept responsibility for maintaining and improving the supply in order to secure a sufficient and wholesome water supply to their premises. Alternatively the premises served could ask to be connected to a public supply;

- the supply is unwholesome and the relevant person(s) is taking action to improve the supply, but to effect the improvements it is necessary to interrupt the supply for a short period of time (for example to connect and commission a new source or treatment process) – the local authority should not need to serve a Section 80 notice in these circumstances. However, the local authority should ensure that the relevant person provides an alternative supply in bottles or containers while the supply is interrupted. For an interruption of a supply, 10 litres of water per person, per day should be provided for drinking/cooking. For an interruption of more than five days, 20 litres of water per person/per day should be provided for drinking, cooking, washing and toilet flushing.

- the supply is part of a private distribution system which is provided by a commercial farm (i.e nursery). The supply is distributed to other domestic properties that pay their water bills to the farm owner. If the farm owner defaults on payment to the water undertaker for the water supply. The water undertakers can apply to the courts for a warrant to enter the farm to disconnect the commercial element of the farm, but not the domestic element of the farm. The water undertakers cannot disconnect domestic properties (under the Water Industry Act 1991), however they may be unaware that the farm supplies other domestic properties as part of a private distribution system. If the local authorities become aware of any such situation they need to make the water undertakers aware so no such disconnection can arise. This is a temporary arrangement and an agreement needs to be established between domestic users of the supply, the water undertakers and the supply providers. Some water undertakers will accept third party agreements or common billing agreements, which need to be agreed by all parties.

Methods for improvement of private water supplies

2.4.4.13 Many smaller private water supplies are likely to fail to meet one or more of the standards and specifications for parameters. There is no universal solution for improving private water supplies. Generally, the best solution involves a multi-barrier approach combining source protection with appropriate treatment processes and maintenance. However, all significant hazards must be controlled, to ensure that there is no potential danger to human health. Each failing private water supply needs to be considered on its merits and the solution selected will depend mainly, but not exclusively, on the following factors:

- the quality and quantity of the water involved;
- the availability of suitable alternative sources;
- the availability of suitable alternative supplies, including connection to a public supply from a water undertaker or licensed water supplier and the costs;
- whether it is feasible and practical, for the supply to be adopted by the water undertaker or licensed water supplier for the area;
- whether action to improve the quality of water at the source is feasible and practical;
- the feasibility and practicality of new, additional or improved water treatment;
- the skills needed by persons to operate and maintain the treatment processes;
- the feasibility and practicality of improvements to the distribution network;
- the location of the site, including the availability of electricity; and
- the capital and operating costs.

2.4.4.14 Comprehensive advice on the methods to improve private water supplies is given in the Private Water Supplies: Technical Manual, Section 3 on source protection, Section 6 on water treatment processes and Section 7 on point of use and point of entry treatments.

9(E).2.4.5 Regulation 17 – Authorisation of different standards

2.4.5.1 Any relevant person (owner, user or other person responsible for a private supply) may apply to the local authority for an **authorised departure** (called a derogation in the Directive) – that is permission to continue supplying water to a lower (more relaxed) standard on a temporary basis while remedial action is taken.
A local authority can only grant an authorisation if certain conditions are met. These conditions are that:

- the only cause of the unwholesome water is a failure to meet a standard for a parameter in Table B (chemical parameters) of Part 1 of Schedule 1 to the Regulations. An authorisation can be granted for more than one parameter. An authorisation is **not** permitted for a failure to meet a standard for a **microbiological parameter** in Table A of Part 1 of Schedule 1, because such a failure is deemed under the Directive as an immediate potential danger to human health;

- the local authority has consulted all users of the private water supply that might be affected by the authorisation and it has taken their views into account;

- the local authority has sought and noted the advice from the local HPU on whether the exceedance would represent a potential danger to human health;

- the supply of water cannot be maintained by any other reasonable means. For the majority of private water supplies it is unlikely that a supply can be maintained by other reasonable means. In this context a reasonable means refers to a supply by means of pipes – it would not include the supply of water by tanker or bottles.

2.4.5.2 An authorisation is temporary, it can only be granted for a short period whilst a permanent solution is found and the maximum period is three years. Since it is temporary, the authorisation will require the applicant to take appropriate remedial action within the period of the authorisation to ensure that the supply complies with the standard for that parameter (or parameters). Therefore the authorisation is required to specify the following:

- the person to whom the authorisation is granted;

- details of the supply concerned;

- the grounds for granting the authorisation (a failure to meet a standard for wholesomeness, the supply cannot be maintained by any other reasonable means and there is not a potential danger to human health;

- the parameter or parameters concerned, the previous relevant monitoring results and the maximum permissible concentration(s) or value(s) under the authorisation;

- the geographical area affected (the area in which the private water supply is distributed), the estimated quantity of water supplied each day, the number of persons supplied and

whether or not any food production undertaking is affected. Local authorities should assume each person uses 0.2m3/day if either the volume or population supplied is not known;

- an appropriate monitoring scheme, with an increased monitoring frequency where necessary. The local authority must continue with the normal check and audit monitoring programme while the authorisation is in force, but it must also consider whether additional monitoring is needed for the parameter(s) described in the authorisation;

- a summary of the plan for remedial action (description of the improvements to be carried out), including a timetable for the work (which must be completed within the duration of the authorisation) and an estimate of the cost (of the remedial action) and provision for reviewing progress (the local authority should specify the intervals at which it requires a progress report from the person specified in the authorisation, because the local authority is required to keep the progress with the remedial action under review); and

- the duration of the authorisation (this must not exceed three years).

2.4.5.3 Once a local authority has granted an authorisation and the person specified in the authorisation takes the specified remedial action in accordance with the specified timetable, it is not allowed to serve a notice under Section 80 of the 1991 Act without first amending or revoking an authorisation. A local authority can amend or revoke an authorisation at any time. A local authority may wish to amend an authorisation because for example:

- a better (technically or more cost effective) solution becomes available; or

- the maximum value in the authorisation has been exceeded and the local authority, after consideration of the advice from the local HPU, are satisfied that a new maximum value (further relaxation of the standard) is not a potential danger to human health.

2.4.5.4 A local authority may wish to revoke an authorisation because for example:

- the water is wholesome due to remedial action completed well within the timetable (in which case there is no need for a Section 80 notice);

- the person specified in the authorisation has failed to carry out the specified remedial action within the specified timetable; or

- the maximum value in the authorisation has been exceeded and the local HPU advises the local authority that the value detected is a potential danger to human health.

2.4.5.5 If a local authority has revoked an authorisation, the remedial action has not been taken or completed and the water is still unwholesome, the local authority must serve a notice under Section 80 of the 1991 Act (see Section 9(E).2.4.4) unless there is a potential danger to human health in which case it must serve a notice under regulation 18 (see Section 9(E).2.4.6).

2.4.5.6 Once a local authority has granted an authorisation, it must ensure that the people using the private water supply are promptly:

- informed of the authorisation and its conditions (the maximum permissible value of the parameter(s) concerned, the remedial action required, the person required to carry out the action and the timetable for completing the action); and

- given advice on the action they can take if they belong to a particular susceptible group for which the authorisation could present a special risk to their health. For example an authorisation for nitrate would not present a risk to older children and adults, but it could present a risk to bottle fed infants and young children – in such a case they could be advised to use bottled water for young children's drinks and for making up infant feeds.

2.4.5.7 If the local authority has granted an authorisation for a private water supply of more than 1,000m^3/day (serving more than 5,000 persons), it must send a copy of the authorisation to the Minister (in practice DWI) within one month so that a copy of the authorisation can be sent to the European Commission as required by the Directive.

2.4.5.8 The local authority could consider granting a second authorisation for up to a further three years in exceptional circumstances, but it may only do so with the consent of the Minister (in practice the DWI). A local authority wishing do so must send a copy of the proposed authorisation together with the grounds for its decision to the Secretary of State at least one calendar month before the expiry date of the first authorisation.

9(E).2.4.6 Regulation 18 – Notice procedure

2.4.6.1 Whenever a private water supply constitutes a potential danger to human health, the local authority should take into consideration any relevant advice from the local HPU and act in accordance with regulation 18. A local authority may discover that a supply is a potential danger to human health through its compliance monitoring under the Regulations, its risk assessment or through some other event.

2.4.6.2 The local authority must serve a notice under regulation 18 on the relevant person (or persons) **instead of serving a notice under Section 80 of the 1991 Act** provided that the serving of the notice will not create a greater potential danger to human health than not serving the notice. This means that the local authority, in consultation with the local HPU, before serving the notice must balance the danger to human health from prohibition of the supply or restriction on the use of the supply against the danger to human health of maintaining the supply. Prohibition of supply means that in addition to no piped supply for drinking, food preparation and cooking (an alternative supply would need to be provided in bottles for these purposes) there would be no water for washing or toilet flushing (unless a relatively large volume can be made available for these purposes for example by tanker) which brings hygiene dangers. It is likely that prohibition of supply will be a last resort. It is more likely that in nearly all cases the local authority will consider restriction of the use of supply for example:

- advice to boil water for drinking, food preparation and cooking for microbiological failures, in which case the danger from boiling water needs to be balanced against the danger of illness (sickness or diarrhoea); or

- advice not to use water for drinking, food preparation and cooking for serious failures of chemical parameters, in which case the danger of using an alternative supply in bottles needs to be balanced against the danger of health effects.

2.4.6.3 Once the local authority decides to serve a notice under regulation 18 on the relevant person, it must do so promptly because there is a potential danger to human health and it must include the following in the notice (the notice should bear a unique identification number):

- identification of the private water supply (the name and other details of the supply);

- the grounds for serving the notice (why the water is a potential danger to human health, and for failures to meet the standard the parameter involved and its concentration);

- prohibit or restrict the use of the supply (advice to boil water for drinking etc for microbiological failures, not to use water for drinking etc for serious chemical failures such as contamination with petrol/diesel/oil, not to use water standing in the pipe work for drinking etc for serious failures of the lead standard); and

- any other action that is necessary to protect human health. This would include the steps necessary to improve the supply to remove the danger and make the supply wholesome. At the time the notice is issued the local authority may only know in general terms the action needed and it may not know the detailed steps needed until it has completed its investigation of the failure. If necessary the local authority should specify whatever known action it can in the notice and amend the notice once it has completed its investigation. However, if a risk assessment has been carried out, the local authority may know the necessary improvement works.

2.4.6.4 Any notice requiring amendment will need to be re-issued to amend the previous conditions (regulation 18(4)). This amended notice can cover any improvement works. The notice should have a new unique identifying number, with an appropriate reference to the previous notice.

2.4.6.5 Local authorities may make the notice subject to conditions. The relevant person(s) must take all reasonable steps to make users of the supply (consumers) aware of the contents and advice in the notice. Therefore, it is suggested that local authorities make it a condition of the notice that, as a minimum, the notice should be displayed in a prominent place so that the contents and advice can be seen by all users. Local authorities could also make it a condition of the notice for the relevant person(s) to provide information about the supply (such as any treatment, the distribution network, the source location, etc) and the users of the supply (if the local authority does not already hold that information) to assist the local authority in discharging its obligations under the Regulations (investigation of the failure, specifying the remedial action and provision of information and advice to consumers).In relation to a Section 80 Notice 1991 Act, local authorities can use the powers under Section 85 1991 Act to ensure the relevant person provides information about the supply to allow the local authority to fulfil its functions under Section

77(1) (‘to take all such steps as they consider appropriate for keeping themselves informed about the wholesomeness...’).

2.4.6.6 When it serves the notice the local authority should advise the relevant person(s) that if they or any other person affected by the notice is aggrieved about the contents of the notice (the steps required to protect human health, remove the potential danger to human health and make the water wholesome) they can appeal against the notice by way of a complaint to a magistrates’ court within 28 days of the notice being served. Local authorities and relevant persons should be aware that when there is an appeal the notice remains in force (because it is still necessary to protect human health) unless the notice is suspended by the magistrates’ court.

2.4.6.7 Once it has served the notice on the relevant person(s), the local authority must inform consumers of the notice and provide any necessary advice. The advice the local authority should give is that required by regulation 14 (see Section 9(E).2.4.2).

2.4.6.8 In many cases the local authority will have served the notice under regulation 18 before it has completed its investigation into the cause of the failure. Sometimes investigation will show that the failure is due solely to the condition and maintenance of pipe work (and fittings) within a single premises dwelling (which is not used for any commercial or public activity) and it is not due to the private water supply. In such a case the local authority will need to revoke the notice and provide advice to the owners owner/occupiers of the single premises dwelling as to the actions they can take to protect their health. If necessary the local authority may serve a new regulation 18 notice on the owner/occupiers of the single dwelling requiring action to be taken (see regulation 16(3)(b)) Examples of the actions they that can be taken are:

- for a microbiological failure, remove inserts from the tap and thoroughly clean and disinfect the tap or replace the tap and pending that action the local authority may advise boiling water for drinking, food preparation and cooking if the local authority considers the failure a potential danger to human health. Relevant advice from the local HPU should be taken into consideration;

- for failures of the lead parameter, replace the lead pipe work with copper or plastic pipe work, and pending that action draw off the water standing in the pipe work and use for purposes other than drinking, food preparation or cooking; or

- relocate an upstream appliance (for example a water softener) downstream of the kitchen tap.

2.4.6.9 **The local authority can make the notice subject to conditions and may amend the notice at any time**. The conditions may include who is to carry out the improvements to the supply (the relevant person) and the date by which the improvements must be completed. When the local authority first serves the notice it is unlikely improve the supply. As part of the investigation the local authority may have concerns about the integrity or condition (cleanliness) of the reservoir or collection chambers. The local authority could specify in the notice that the relevant person appoints a water engineer to inspect the system, identify any potential weaknesses (including hygienic condition) and submit a report of the options to ensure compliance with the Regulations.

2.4.6.10 It is strongly advised that local authorities ensure that each new notice is identifiable by a unique reference number, which is linked in some way to the previous notice (restricting the supply or other improvement works) by a number reference. Once the notice has been in place, further information (such as a better, more cost effective process to improve the supply) may require the notice to be amended and served again with a new number, linked to the original notice.

2.4.6.11 The notice must be served on the relevant person or persons. The clearest case is where the relevant person owns the land where the source originates and provides the water supply onto other commercial premises and dwellings. In this case the notice would require the relevant person to restrict the supply and carry out any improvement works. If the relevant person does not own the land where the source originates and the source requires protection, the relevant person is different (i.e. it will be the owner of the land). In which case, the notice should state who restricted the supply and when the supply was restricted, and require the land owner to protect the source, detailing what works are required in the improvement works section. The works required could also be placed in a schedule dependant on the local authorities' policy

2.4.6.12 The local authority must revoke the notice as soon as the potential danger to human health ceases, for example because the improvements to the supply have been completed satisfactorily. It will also revoke the notice when its investigations show that the failure is due solely to the pipe work within single premises that is not used for commercial or public activity.

2.4.6.13 The local authority should monitor progress of the remedial action to satisfy itself that the steps specified are being taken and will be completed within the period specified in the notice. Where the relevant person (or persons) has not taken the specified steps within the specified period, they have committed an offence under regulation 18(6) person(s) breaching a notice or failing to comply with it. The local authority may bring a case to court against the relevant person(s) (see Section 9(E).2.4.8).to have completed its investigations into the cause of the failure and it may need to amend and re-serve the notice with a new number to specify in greater detail the steps and timetable to

2.4.6.14 The Regulations will apply to the Crown and the Duchy (of Lancaster and Cornwall), as they are not specifically exempted from the application of the Regulations. It is therefore an offence for the Crown and the Duchy not to comply with a regulation 18 Notice. However, no contravention of any provision of the Regulations shall make the Crown or the Duchy criminally liable; but the High Court may declare unlawful any act or omission of the Crown which constitutes such a contravention (Section 221(2), Water Industry Act 1991).

2.2.6.15 An example of a regulation 18 notice with comments and further advice is given in Annex 4.

9(E).2.4.7 Regulation 19 – Appeals

2.4.7.1 This regulation provides an appeal mechanism for any person (the relevant person(s) or any other person affected by the contents of the notice) who is aggrieved by the notice served under regulation 18. The person may appeal to the magistrates' court by way of a complaint within 28 days of the notice being served. The notice remains in force during the appeal (because it is still necessary to protect human health) unless the notice is suspended by the court. The court may either cancel the notice or confirm it with or without modifications.

9(E).2.4.8 Regulation 20 – Penalties

2.4.8.1 It is an offence to breach a notice served under regulation 18 or to fail to comply with the requirements of the notice. A local authority may bring a case against any person who fails to comply with a notice and that person is liable:

- on summary conviction, to a fine not exceeding the statutory maximum or to a term of imprisonment not exceeding three months or both, or

- on conviction or indictment, to a fine or to imprisonment for a term not exceeding two years or both.

2.4.8.2 Where a body corporate is guilty of an offence and the offence is proved to have been committed with the consent or connivance of, or to have been attributable to any neglect on the part of:

- any director, manager, secretary or other similar person of the body corporate; or

- any person who was purporting to act in any such capacity, that person is guilty of the offence as well as the body corporate.

9(E).2.5 Part 5 Miscellaneous

9(E).2.5.1 Regulation 21 – Fees

2.5.1.1 This regulation makes provision for local authorities to charge fees for carrying out certain duties under the Regulations. The fees are set out in Schedule 5 of the Regulations. This schedule allows a local authority to charge a fee which is the reasonable cost of carrying out the service (activity) up to a specified maximum. The maximum fees the local authority can charge are set out in Table 6 below.

Table 6: Maximum fees

Service (activity)	Maximum fee (£)
Risk assessment (each assessment)	500[(1)]
Sampling (each visit) [(2)]	100
Investigation (each investigation)	100
Granting an authorisation (each authorisation)	100
Analysing a sample:	
taken under Regulation 10	25
taken during check monitoring	100
taken during audit monitoring	500

[(1)] Note. A transitional grant scheme is proposed for Wales which will compensate local authorities for the cost of undertaking risk assessments for the initial five year period. As a consequence, no charge for Risk Assessments in Wales should be made.

[(2)] No fee is payable where a sample is taken and analysed solely to confirm or clarify the results of the analysis of a previous sample

The Local Authority can only charge the reasonable cost of providing the service. This should reflect the time taken to carry out the work so activities relating to small supplies are likely to require less time and the charges be considerably less than for large or complex supplies. Where information on the supply is more readily available this may assist the local authority and may reduce the time spent on the risk assessment. The charge can be based on an hourly rate and/or a flat rate but should be decided at a local (authority) level based on these principles. The local authority should only charge the maximum fee where the actual time on site, carrying out the assessment and related administration time, amounts to (or exceeds) this maximum. Charges may vary between local authorities, based on local circumstances such as a larger geographical district and spread of private water supplies.

Where a Regulation 18 notice has been served and its requirements fully complied with (e.g. improvement works have

been completed), the local authority must revoke a notice as soon as there is no longer a potential danger to human health. To do this authorities will need to check that any improvement measures have been appropriately completed (e.g. by physical inspection) and may need to conduct verification sampling to confirm the effectiveness of these measures. This would not be considered part of the investigation and would therefore be a separate sampling visit. This visit may be combined with a routine audit or check monitoring visit to minimise the costs involved.

2.5.1.2 The maximum fee of £500 for a risk assessment is intended to allow a range of charges (up to this maximum figure) to reflect the wide variety of circumstances of private water supplies and their sources. A risk assessment for a large supply with a raw water source from a large catchment area with numerous potential sources of pollution could be quite complicated and time consuming, so the actual cost of carrying it out the assessment could approach £500. However, a risk assessment of a small supply from a secure ground water source is much less complicated and time consuming and the reasonable cost should be a fraction of £500. The cost of audit monitoring for the full suite of parameters could approach £500. However, local authorities are allowed to exclude parameters from audit monitoring if certain conditions are met (see Section 9(E).2.3.3 of this guidance) so that the actual cost (i.e. the amount that can be recharged) of audit monitoring should be considerably less than £500.

2.5.1.3 There is no requirement in the Regulations for routine audit monitoring of small supplies. A local authority 'must monitor at least every five years and more frequently if the risk assessment shows that to be necessary' [regulation 10(2)]. This monitoring is routine compliance monitoring, based on the list of parameters in regulation 10 and any other parameters identified in the risk assessment. There is a maximum charge of £25 for this sampling. However, as part of the initial risk assessment for a small supply, the parameters listed in Schedule 1 will need to be considered, to assess if they present a potential danger to human health in that supply. If so, the local authority must ensure that the relevant parameters are monitored (thus satisfying regulation 10 (1)(g)). The risk assessment of these parameters could include a desk top assessment and analysis. Local authorities may exclude the analysis of certain parameters listed in Schedule 1, if certain conditions are met (see Section 9(E).2.3.3 of this guidance) so that the actual cost of analysis for the risk assessment should be reasonable and not above the maximum charge for risk assessments.

2.5.1.4 The fees are payable by the relevant person (or persons) for each private supply on receipt of an invoice from the local authority. Where there is more than one relevant person, the local authority may apportion the fee between the relevant persons. The local authority must have regard to any document relating to the terms on which the water is supplied.

2.5.1.5 In the case of a supply to a single dwelling, if the owner or occupier requests a risk assessment or monitoring the local authority may charge the reasonable cost of carrying out that activity up to the maximum specified for the activity in Table 6.

2.5.1.6 Any other person requesting anything under the Regulations is liable for the cost. This may occur, for example, when a premises served by a private water supply is put up for sale and a prospective buyer requests sampling and analysis to determine whether the supply is wholesome. It may also occur when the owner or occupier of a premises served by a private water supply wants to know whether the quality of the supply is satisfactory.

2.5.1.7 However, sometimes the owner or occupier of a premises will not be satisfied with the quality of the private water supply and in effect registers a complaint about the quality of the supply to the local authority. In these circumstances, if the local authority should suspect that the supply is unwholesome or does not comply with the indicator parameter values it should carry out an investigation under the provisions of regulation 15. The local authority may charge the relevant person(s) the reasonable cost of the investigation subject to the maximum in Table 6.

9(E).2.5.2 Regulation 22 – Revocation

2.5.2.1 The Private Water Supply Regulations 1991 are revoked. From 1 January 2010 the 2009 Regulations replace the 1991 Regulations in England and from 4 February 2010 in Wales.

9(E).2.6 Miscellaneous matters

9(E).2.6.1 Powers of entry

2.6.1.1 Persons authorised by a local authority have the power to enter any premises under Section 84(3) and Schedule 6 of the 1991 Act to ensure that the provisions of the Regulations are complied with. Authorised persons may carry out inspections, measurements or tests on the premises or of any articles found on the premises or take away samples of water or any articles.

2.6.1.2 Unless it is an emergency, an authorised person must give the occupier of the premises 24 hours notice of the intention to enter premises and must only enter the premises at a reasonable time following the notice. If entry has been refused following the serving of the notice, the premises are unoccupied, the occupier is temporarily absent or entry is urgent, the local authority may apply, by sworn information in writing, for a warrant from a justice of the peace enabling the authority to designate a person to enter the premises in accordance with the warrant and if need be by use of force. The warrant shall remain in force until its purpose has been fulfilled. The designated person shall produce the warrant and their evidence of designation before exercising the right to entry.

9(E).2.6.2 Drinking water fountains

2.6.2.1 Sometimes a private water supply will provide water to a public drinking water fountain. Local authorities should be aware that it is very difficult to maintain such fountains in a clean and hygienic condition at all times and a sample taken from a fountain may fail to meet the standards for microbiological parameters even when the private water supply serving the fountain is satisfactory.

2.6.2.2 When the private water supply only supplies a drinking water fountain and no other premises, the local authority is required to monitor the supply (the water coming out of the fountain) in accordance with regulation 9 (supply to public premises). Because it is possible that the sample from the fountain will fail, because of its hygienic condition, the local authority should consider, if practical, taking a sample at the same time for microbiological parameters only (coliforms, *E.coli* and colony counts) from the private water supply before it reaches the fountain. This will enable the local authority to determine whether any failure is due to the private water supply itself or the hygienic condition of the fountain. If there is a failure due solely to the

hygienic condition of the fountain, the local authority will need to consider, in consultation with the local HPU, whether it is a potential danger to public health and if so what action to take. A key consideration will be whether the fountain can be maintained in a clean and hygienic condition at all times. If it cannot, the local authority may need to consider prohibiting the supply or placing a notice at the fountain stating that the water is not suitable for drinking.

2.6.2.3 When the private water supply supplies a drinking water fountain and other premises, the local authority is required to monitor the supply in accordance with regulation 9. The local authority will select the premises for sampling from all those supplied including the fountain. However, as the fountain represents the highest risk, it should be sampled at least once per year and when it is sampled, the local authority should take a sample at the same time for microbiological parameters only (coliforms, *E.coli* and colony counts) from one of the other premises supplied by the supply. This will enable the local authority to determine whether any failure is due to the private water supply itself or the hygienic condition of the fountain. If there is a failure due solely to the hygienic condition of the fountain, the local authority should proceed as described in paragraph 2.6.2.2.

9(E).2.6.3 Ministry of Defence establishments with private water supplies

2.6.3.1 Most Ministry of Defence (MoD) establishments have food premises on the site, which are registered with their local authority. Through good practice and liaison between MoD and the local authorities, arrangements for the inspection of these premises have been established, therefore enabling local authorities to carry out their statutory duties regarding food premises. These arrangements can be developed to encompass the requirements of the Private Water Supply Regulations 2009 - that is to:

- carry out sampling;
- undertake a risk assessment (or the verification of a risk assessment completed by a MoD contractor who is competent); and
- collect data about the supply.

2.6.3.2 Any sampling or a risk assessment can be carried out by a competent person other than the local authority. However, this

person needs to be assessed as competent by the local authority to carry out this task. DWI will be working with the MoD to assist the risk assessment and data collection basis.

2.6.3.3 The local authority will be collecting data from MoD sites on the source and its catchment, the supply and its water quality to enable it to carry out, or verify, the risk assessment. The MoD have an established water sampling programme for their site and also carry out repairs and maintenance of the distribution networks. This information will be helpful in the risk assessment.

2.6.3.4 If any MoD site is concerned that some of the information being requested is sensitive, this should be discussed with the local authority (and DWI). However, when necessary, the local authority can also ensure that the data is recorded as restricted information and therefore cannot be released in response to a request under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004. In addition, local authorities are advised to inform the MoD of any information request under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004 that would include any of their sites which will allow time for the sensitivity of the information to be checked prior to release. (Also see paragraph 2.4.6.14)

2.6.3.5 If you have an MoD establishment with a private water supply in your district, you may wish to contact DWI who will advise and assist you with this process.

9(E).2.6.4 Local authority funding for improvement works to private water supplies

2.6.4.1 The Regulatory Reform (Housing Assistance) Order 2002, which came into force in July 2002, introduces general powers for local authorities and provides financial assistance. This order gave local authorities great flexibility in devising a strategy to deal with poor condition private sector housing. The flexibility is in terms of policy tools and their ability to work in partnership with others.

2.6.4.2 The following local authorities have taken advantage of this flexibility and partnered with the Wessex Home Improvement Trust to provide financial assistance for improvement the quality of a water supply and associated works to private water supplies. These local authorities are as follows:

- Bath and North East Somerset;

- Bristol City Council;
- East Devon District Council;
- Exeter;
- Mendip District Council;
- Mid Devon District Council;
- North Devon Council;
- North Somerset District Council;
- Taunton Deane;
- Teignbridge District Council;
- Torridge District Council;
- Sedgemoor District Council;
- South Gloucester Council;
- South Hams District Council;
- South Somerset District Council;
- West Devon District Council;
- West Dorset District Council;
- West Somerset District Council.

2.6.4.3 The householder would seek assistance by making contact with the local authority that would provide a report demonstrating why the improvements are required (to provide a wholesome water supply). The Wessex Home Improvement Trust provides assistance through a loan (through an interest only or repayment scheme).There are examples where this has been achieved and private water supplies have been improved. More details of the Wessex Home Improvement Trust can be found on their web site www.wessexhil.co.uk. However, you can also contact any of the local authorities listed or DWI.

2.6.4.4 There are other organisations throughout England and Wales which provide similar schemes for improvements to private water supplies, such as PUSH (Partnership for Urban South Hampshire) which covers East Hampshire District Council and includes the

other seven Hampshire local authorities. There is a similar scheme run by Calderdale Metropolitan Borough Council.

9(E).2.6.5 The changing lead standard in the Regulations

2.6.5.1 Lead is considered a risk to human health, affecting the IQ and behaviour of children if exposed to lead in the womb or during their first six years of life. Sources of lead include drinking water as a result of leaching from lead pipework (particularly in soft water areas) connecting the water supply distribution system to buildings and within buildings predating 1970. Lead pipes are no longer used in the construction of properties, having been replaced by other materials such as copper. However, there are still occasions of lead occurring in drinking water supplies from the illegal use of lead based solder in the joining of copper water supply pipes.

2.6.5.2 The standards in the Regulations specifying maximum concentrations of lead in private water supplies. .
The Regulations specify an interim standard of 25μg/l until 24 December 2013, after which the final standard of 10μg/l will apply. These more stringent standards for lead transpose the requirements of the EC Drinking Water Directive (98/83/EC).

2.6.5.3 Local authorities are advised to be mindful of the standard of 10μg/l, when assessing sample results. If improvement works are being carried out at the supply, the local authority need to advise the users of the supply and the relevant person if their supply is likely to fail the standard and be a potential danger to human health. It would be far more cost effective and less disruptive to do all the improvement works at the same time. The majority of lead pipework is found in the pipe work leading into a domestic premises and the pipework below the stockcock (usually under the sink). DWI research has shown that with the complete replacement of the lead pipe in the home, there is a significant reduction in lead levels in the drinking water. In most areas the lead in drinking water will be completely removed, however this may not be the case in areas where there are low lead levels in the raw water sources. If you need further information on this please contact DWI.Enquiries@defra.gsi.gov.uk.

9(E) Annex 1 Standards of wholesomeness

This annex is reproduced from Part 1 and Part 2 of Schedule 1 to the Regulations.

SCHEDULE 1 Regulations 4, 10, 15 and 17

Concentrations or Values

PART 1

Wholesomeness

TABLE A: MICROBIOLOGICAL PARAMETERS

Prescribed concentrations or values

Parameters	*Maximum concentration or value*	*Units of Measurement*
Escherichia coli (E.coli)	0	Number/100ml
Enterococci	0	Number/100ml
In the case of water in bottles or containers:		
Escherichia coli (E.coli)	0	Number/250ml
Enterococci	0	Number/250ml
Pseudomonas aeruginosa	0	Number/250ml
Colony count 22°C	100	Number/ml
Colony count 37°C	20	Number/ml

TABLE B: CHEMICAL PARAMETERS

Prescribed concentrations or values

Parameters	*Maximum concentration or value*	*Units of Measurement*
Acrylamide [(i)]	0.10	µg/l
Antimony	5.0	µg/l
Arsenic	10	µg/l
Benzene	1.0	µg/l
Benzo(a)pyrene	0.010	µg/l
Boron	1.0	mg/l
Bromate	10	µg/l
Cadmium	5.0	µg/l
Chromium	50	µg/l
Copper	2.0	mg/l
Cyanide	50	µg/l
1, 2 dichloroethane	3.0	µg/l
Epichlorohydrin [(i)]	0.10	µg/l
Fluoride	1.5	mg/l

Parameters	*Maximum concentration or value*	*Units of Measurement*
Lead	25 (until 25th December 2013)	µg/l
	10 (from 25th December 2013)	µg/l
Mercury	1.0	µg/l
Nickel	20	µg/l
Nitrate [ii]	50	mg/l
Nitrite[ii]	0.5 (or 0.1 in the case of treatment works)	mg/l
Pesticides [iii]—		
Aldrin	0.030	µg/l
Dieldrin	0.030	µg/l
Heptachlor	0.030	µg/l
Heptachlor epoxide	0.030	µg/l
other pesticides	0.10	µg/l
Pesticides total [iv]	0.50	µg/l
Polycyclic aromatic hydrocarbons [v]	0.10	µg/l
Selenium	10	µg/l
Tetrachloroethene and Trichloroethene [vi]	10	µg/l
Trihalomethanes: Total [vii]	100	µg/l
Vinyl chloride [i]	0.50	µg/l

National requirements – Prescribed concentrations or values ***(Note; This table is part of Table B, Chemical parameters)***

Parameters	*Maximum concentration or value*	*Units of Measurement*
ıluminium	00	g/l
Colour	20	mg/l Pt/Co
Iron	200	µg/l
Manganese	50	µg/l
Odour	Acceptable to consumers and no abnormal change	
Sodium	200	mg/l
Taste	Acceptable to consumers and no abnormal change	
Tetrachloromethane	3	µg/l
Turbidity	4	NTU

[i] The parametric value refers to the residual monomer concentration in the water as calculated according to specifications of the maximum release from the corresponding polymer in contact with the water. This is controlled by product specification.

[ii] See also the nitrate-nitrite formula in regulation 4(c).

[iii] For these purposes "Pesticides" means—

organic insecticides

organic herbicides

organic fungicides

organic nematocides

organic acaricides

organic algicides

organic rodenticides

organic slimicides

related products (inter alia, growth regulators)

and their relevant metabolites, degradation and reaction products.

Only those pesticides likely to be present in a given supply need be monitored.

[iv] "Pesticides total" means the sum of the concentrations of the individual pesticides detected and quantified in the monitoring process.

[v] The specified compounds are:

benzo(b)fluoranthene

benzo(k)fluoranthene

benzo(ghi)perylene

indeno(1,2,3-cd)pyrene.

The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

[vi] The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

[vii] The specified compounds are:

chloroform

bromoform

dibromochloromethane

bromodichloromethane.

The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

PART 2

Indicator Parameters

TABLE C

Prescribed concentrations, values or states

Parameters	*Maximum concentration or value or state (unless otherwise stated)*	*Units of measurement*
Ammonium	0.50	mg/l
Chloride [(i)]	250	mg/l
Clostridium perfringens (including spores)	0	Number/100ml
Coliform bacteria	0	Number/100ml (Number/250 ml in the case of water put into bottles or containers)
Colony counts	No abnormal change	Number/ml at 22°C
	No abnormal change	Number/ml at 37°C
Conductivity [(i)]	2500	µS/cm at 20°C
Hydrogen ion	9.5 (maximum)	pH value
	6.5 (minimum) (in the case of still water put into bottles or containers the minimum is 4.5)	pH value
Sulphate [(i)]	250	mg/l
Total indicative dose (for radioactivity) [(ii)]	0.10	mSv/year
Total organic carbon (TOC)	No abnormal change	mgC/l
Tritium (for radioactivity)	100	Bq/l
Turbidity[(iii)]	1	NTU

[(i)] The water should not be aggressive.

[(ii)] Excluding tritium, potassium-40, radon and radon decay products.

[(iii)] Only in the case of surface water or ground water that has been influenced by surface water.

9(E) Annex 2 Prescribed methods of analysis for microbiological parameters

This Annex is reproduced from **Part 2 of Schedule 3 to the Regulations**

PART 3

Analytical methods

Table 1

Prescribed methods of analysis

Parameter	*Method*
Clostridium perfringens (including spores)	Membrane filtration followed by anaerobic incubation of the membrane on m-CP agar* at 44 ± 1°C for 21 ± 3 hours. Count opaque yellow colonies that turn pink or red after exposure to ammonium hydroxide vapours for 20 to 30 seconds.
Coliform bacteria	BS-EN ISO 9308-1
Colony count 22°C-enumeration of culturable microorganisms	BS-EN ISO 6222
Colony count 37°C-enumeration of culturable microorganisms	BS-EN ISO 6222
Enterococci	BS-EN ISO 7899-2
Escherichia coli (*E.coli*)	BS-EN ISO 9308-1
Pseudomonas aeruginosa	BS-EN ISO 12780

*Use the following method to make m-CP agar:

Make a basal medium consisting of—

Tryptose	30.0g
Yeast extract	20.0g
Sucrose	5.0g
L-cysteine hydrochloride	1.0g
$MgSO_4.7H_2O$	0.1g
Bromocresol purple	40.0mg
Agar	15.0g
Water	1,000.0ml

Dissolve the ingredients of the basal medium, adjust pH to 7.6 and autoclave at 121°C for 15 minutes. Allow the medium to cool.

Dissolve—

D-cycloserine	400.0mg
Polymyxine-B sulphate	25.0mg
Indoxyl-β-D-glucoside	60.0mg

into 8ml sterile water and add it to the medium.

Add to the medium—

Filter-sterilised 0.5% phenolphthalein diphosphate solution	20.0ml
Filter-sterilised 4.5% $FeCl_3.6H_2O$	2.0ml

9(E) Annex 3 Prescribed performance characteristics (trueness, precision and limit of detection)

Annex 3 is reproduced from Part 2 of Schedule 3 to the Regulations

PART 4

Analytical methods

Table 2

Prescribed performance characteristics for methods of analysis

Parameters	*Trueness % of prescribed concentration or value or specification*	*Precision % of prescribed concentration or value or specification*	*Limit of detection % of prescribed concentration or value or specification*
Aluminium	10	10	10
Ammonium	10	10	10
Antimony	25	25	25
Arsenic	10	10	10
Benzene	25	25	25
Benzo(a)pyrene	25	25	25
Boron	10	10	10
Bromate	25	25	25
Cadmium	10	10	10
Chloride	10	10	10
Chromium	10	10	10
Colour	10	10	10
Conductivity	10	10	10
Copper	10	10	10
Cyanide [(i)]	10	10	10
1,2-dichloroethane	25	25	10
Fluoride	10	10	10
Iron	10	10	10
Lead	10	10	10
Manganese	10	10	10
Mercury	20	10	20
Nickel	10	10	10
Nitrate	10	10	10
Nitrite	10	10	10
Pesticides and related products [(ii)]	25	25	25
Polycyclic	25	25	25

Parameters	*Trueness % of prescribed concentration or value or specification*	*Precision % of prescribed concentration or value or specification*	*Limit of detection % of prescribed concentration or value or specification*
aromatic hydrocarbons [iii]			
Selenium	10	10	10
Sodium	10	10	10
Sulphate	10	10	10
Tetrachloroethene [iv]	25	25	10
Tetrachloromethane	20	20	20
Trichloroethene [iv]	25	25	10
Trihalomethanes : Total [iii]	25	25	10
Turbidity [v]	10	10	10
Turbidity [vi]	25	25	25

Notes:

[i] The method of analysis should determine total cyanide in all forms.

[ii] The performance characteristics apply to each individual pesticide and will depend on the pesticide concerned.

[iii] The performance characteristics apply to the individual substances specified at 25% of the parametric value in Part I of Table B in Schedule 1.

[iv] The performance characteristics apply to the individual substances specified at 50% of the parametric value in Part I of Table B in Schedule 1.

[v] The performance characteristics apply to the prescribed value of 4 NTU.

[vi] The performance characteristics apply to the specification of 1 NTU for surface water or ground water influenced by surface water

9E Annex 4: Model Regulation18 Notices

[Council's Name]
The Private Water Supplies Regulations 2009 (SI 2009/3101)
Regulation 18 Notice

Reference.....

1. To: [The relevant person]

Of: Address

This Notice is served on you as the relevant person (as defined in section 80 of the Water Industry Act 1991) by [Insert name and address of the Council] ("the Council") pursuant to regulation 18 of the Private Water Supplies Regulations 2009 ("the 2009 Regulations") in relation to the private water supply known as [Insert known name of the supply and address.....]"the Supply")

2. The Council is of the understanding the Supply provides water for human consumption or part of a food undertaking, to the following properties:

   [List addresses of all properties supplied by the Supply for the above purposes that are known].

3. In the Council's opinion the Supply:

   a) constitutes a potential danger to human health; and
   b) does not meet the requirements of regulation 4 (wholesomeness) of the 2009 Regulations in that it contains, from time to time [ ].

4. The Council requires you (...*insert the name*.....) to within.....*Insert the number of days* ... of service of this Notice to restrict the Supply:

5. For that purpose, you are required to **restrict** the Supply by;

   a) advising consumers of the Supply to boil the water intended for human consumption or part of a food undertaking; or
   b) advising consumers of the Supply not to drink the water intended for human consumption or part of a food undertaking and provide all consumers of the Supply with an alternative wholesome water supply. (Conditions can be added to this)

6. The Council also requires you, (...*insert the name*.....) within.....*Insert the number of days* ... of service of this Notice to carry out the following actions which, in the Council's opinion, are necessary to **protect the human health** of consumers of the Supply:

   a) take all reasonable steps to ensure that all consumers of the Supply are made aware of the contents and advice in this Notice.
      (|Conditions can be added to this)
   b) *Other action or improvement measures can be inserted here.* (**Note:** This can either be completed at the time of serving the Notice restricting the Supply if the improvement measures are known from a risk assessment or other investigations or be added as an amendment to the Notice and then the notice re-served as a new Notice to after the improvement measures are known)
      (Conditions can be added to this)

7. ***It is an offence to fail to comply with this Notice.***

Signature: Date:
(Authorised Officer)

Name in Capitals: Tel.
Designation: Officer Title

Address: Address and Council name

Telephone : Fax: email:

PLEASE READ THE NOTES OVERLEAF CAREFULLY. IF YOU ARE NOT SURE OF YOUR RIGHTS OR THE IMPLICATIONS OF THIS NOTICE, YOU MAY WANT TO SEEK LEGAL ADVICE.

Conditions related to this Regulation 18 Notice.

The Council may make the Notice subject to conditions.

For example

a. For the purposes of ensuring that the relevant person(s) takes all reasonable steps to make users of the Supply (consumers) aware of the contents and advice in the Notice, the Council make it a condition of this Notice that, as a minimum, the Notice should be displayed in a prominent place so that its contents and advice can be seen by all consumers until there is no longer a potential danger to human health.
b. The relevant person(s) must inform the Council when and where the Notice is displayed
c. The Council makes it a condition of this Notice for the relevant person(s) to provide information about the Supply and consumers of the Supply, to assist the Council in discharging its obligations under the 2009 Regulations. (**Note;** the Council must specify what information it requires i.e. the dwelling name and addresses, the number of occupants (to allow the Council to estimate the volume of water supplied), any treatment, commercial/food premises, or Bed and Breakfast premises, etc..).
d. Any product or substance used in a private supply must be a product or substance that would be permitted to be used in a water supply under regulation 31of the Water Supply(Water Quality) Regulations 2000

Accompanying notes to the model Regulation18 Notices

Private Water Supplies Regulations 2009 (SI 2009/3101)
Regulation 18 Notice

ACCOMPANYING NOTES

1. In the opinion of [insert name and address of Council] ("the Council") you are not complying with the Private Water Supply Regulations 2009 ("the 2009 Regulations"), as described in paragraph 4 of the attached notice ("the Notice") in relation to the private supply of water ("the Supply") described in the Notice.

2. As the relevant person for the purposes of the 2009 Regulations, you are required to restrict the Supply and carry out specified actions to protect human health. The restriction and actions required to be carried out and the deadlines by which actions are to be completed are described in the Notice and attached schedule.

YOUR RIGHT TO APPEAL

3. If you disagree with all or part of the Notice, you have a right of appeal to the Magistrates' Court, where the Court may either cancel the Notice or confirm it, with or without modification You must appeal within 28 days of the date of service of the Notice.

4. The Council has the power to amend the Notice, including extending the deadline(s) specified in the Notice. If you wish to extend the deadline(s) you must contact the Council's Authorised Officer at least 15 working days before the relevant specified deadline. Contact details for the Council's Authorised Officer can be found at the end of the Notice. A request to extend the deadline does not constitute an appeal against the Notice.

5. The Council must revoke the Notice as soon as there is no longer a potential danger to human health.

6. If you decide to appeal against the Notice, the Notice will remain in force unless suspended by the Court.

7. On hearing an appeal the Court may cancel the Notice or confirm it, with or without modification.

8. Appeals should be made to: [Name of Magistrates' Court, and Address]

WARNING
FAILURE TO COMPLY WITH THIS NOTICE IS AN OFFENCE.
Offenders are liable to be fined up to a maximum of £5,000 and/or imprisonment for up to 3 months (Magistrates' Court) or an unlimited fine and/or imprisonment for up to 2 years (Crown Court).

9E Annex 4: Model Regulation18 Notices for Wales

[Council's Name]
[The Private Water Supplies (Wales) Regulations 2010 (SI 2010/No66)]

Regulation 18 Notice

Reference.....

8. To: [The relevant person]
Of: Address

This Notice is served on you as the relevant person (as defined in section 80 of the Water Industry Act 1991) by [Insert name and address of the Council] ("the Council") pursuant to regulation 18 of the [Private Water Supplies (Wales) Regulations 2010 ("the 2010 Regulations") in relation to the private water supply known as [Insert known name of the supply and address.....]"the Supply")

9. The Council is of the understanding the Supply provides water for human consumption or part of a food undertaking, to the following properties:

   [List addresses of all properties supplied by the Private Water Supply for the above purposes that are known].

10. In the Council's opinion the Supply:

    a) constitutes a potential danger to human health; and
    b) does not meet the requirements of regulation 4 (wholesomeness) of the 2009 Regulations in that it contains, from time to time [ ].

11. The Council requires you (...*insert the name*.....) to within.....*Insert the number of days* ... of service of this Notice to restrict the Supply:

12. For that purpose, you are required to **restrict** the Supply by;

    c) advising consumers of the Supply to boil the water intended for human consumption or part of a food undertaking; or
    d) advising consumers of the Supply not to drink the water intended for human consumption or part of a food undertaking and
    e) provide all consumers of the Supply with an alternative wholesome water supply. (Conditions can be added to this)

13. The Council also requires you, (...*insert the name*.....) within.....*Insert the number of days* ... of service of this Notice to carry out the following actions which, in the Council's opinion, are necessary to **protect the human health** of consumers of the Supply:

    c) take all reasonable steps to ensure that all consumers of the Supply are made aware of the contents and advice in this Notice.
    (|Conditions can be added to this)
    d) *Other action or improvement measures can be inserted here.* (**Note:** This can either be completed at the time of serving the Restriction notice if the improvement measures are known from a Risk assessment or other investigations or be added as an amendment to the existing notice and then the notice re -served as a new Notice to after the improvement measures are known)
    (Conditions can be added to this)

14. ***It is an offence to fail to comply with this Notice.***

Signature: Date:
(Authorised Officer)

Name in Capitals: Tel.
Designation: Officer Title

Address: Address and Council name

Telephone: Fax : email :

PLEASE READ THE NOTES OVERLEAF CAREFULLY. IF YOU ARE NOT SURE OF YOUR RIGHTS OR THE IMPLICATIONS OF THIS NOTICE, YOU MAY WANT TO SEEK LEGAL ADVICE.

Conditions related to this Regulation 18 Notice.

The Council may make the Notice subject to conditions.

For example

e. For the purposes of ensuring that the relevant person(s) takes all reasonable steps to make users of the Supply (consumers) aware of the contents and advice in the Notice, the Council make it a condition of this Notice that, as a minimum, the Notice should be displayed in a prominent place so that its contents and advice can be seen by all consumers until there is no longer a potential danger to human health.

f. The relevant person(s) must inform the Council when and where the Notice is displayed

g. The Council makes it a condition of this Notice for the relevant person(s) to provide information about the Supply and consumers of the Supply, to assist the Council in discharging its obligations under the 2010 Regulations. (**Note;** the Council must specify what information it requires i.e. the dwelling name and addresses, the number of occupants (to allow the Council to estimate the volume of water supplied), any treatment, commercial/food premises, or B and B, etc..).

h. Any product or substance used in a private supply must be a product or substance that would be permitted to be used in a water supply under regulation 31of the Water Supply (Water Quality) Regulations 2000

Accompanying notes to the model Regulation18 Notices for Wales

[Private Water Supplies (Wales) Regulations 2010 (SI 2010/No66)]
Regulation 18 Notice

ACCOMPANYING NOTES

1. In the opinion of [insert name and address of Council] ("the Council") you are not complying with the **[**Private Water Supplies (Wales) Regulations 2010 (the 2010 Regulations)], as described in paragraph 4 of the attached notice ("the Notice") in relation to the private supply of water described in the Notice ("the Supply").

2. As the relevant person for the purposes of the 2010 Regulations, you are required to restrict the Supply and carry out specified actions to protect human health. The restriction and actions required to be carried out and the deadlines by which actions are to be completed are described in the Notice and attached schedule.

YOUR RIGHT TO APPEAL

3. If you disagree with all or part of the Notice, you have a right of appeal to the Magistrates' Court, where the Court may either cancel the Notice or confirm it, with or without modification You must appeal within 28 days of the date of service of the Notice.

4. The Council has the power to amend the Notice, including extending the deadline(s) specified in the Notice. If you wish to extend the deadline(s) you must contact the Council's Authorised Officer at least 15 working days before the relevant specified deadline. Contact details for the Council's Authorised Officer can be found at the end of the Notice. A request to extend the deadline does not constitute an appeal against the Notice.

5. The Council must revoke the Notice as soon as there is no longer a potential danger to human health.

6. If you decide to appeal against the Notice, the Notice will remain in force unless suspended by the Court.

7. On hearing an appeal the Court may cancel the Notice or confirm it, with or without modification.

8. Appeals should be made to: [Name of Magistrates' Court, and Address]

WARNING
FAILURE TO COMPLY WITH THIS NOTICE IS AN OFFENCE.
Offenders are liable to be fined up to a maximum of £5,000and/or imprisonment for up to 3 months (Magistrates' Court) or an unlimited fine and/or imprisonment for up to 2 years (Crown Court).

9(E) Annex 5 Link for contact details for the Health Protection Units in England and Wales

The contact details for the Health Protection Units can be found on the HPA website http://www.hpa.org.uk/. All you need to do is type your local authority postcode into the postcode finder on the front page, and this identifies the appropriate HPU.

For the contacts for the Health Protection Team, Public Health Wales, use the following;

http://howis.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=20705

Or take the following steps;

1. Google Public Health Wales;
2. Go into National Public Health Service for Wales website;
3. Click on health protection;
4. Click on health protection teams;
5. Current contact details of the health protection teams will appear.

How to contact us

Drinking Water Inspectorate
55 Whitehall
London
SW1A 2EY

Telephone: 0300 068 6400 - General office