

SECTION 6: PROCEDURES FOR NON-COMPLIANCE WITH STANDARDS



Issue No:	1
Date:	12 April 2010

Section 6: Procedures for non-compliance with standards

Summary of Section 6

- ◆ Provides a summary of Regulations 9, 10 and 11, particularly the requirement to protect human health, investigate non-compliances and prepare remedial action programmes and applications for departures.
- ◆ Sets out the offences under Regulations 9 and 10.
- ◆ Describes how Water Services Authorities (WSAs) protect human health in consultation and agreement with the Health Service Executive (the HSE).
- ◆ Describes the requirement for private water suppliers to investigate failures to comply with the standards and indicator parameter values to determine the cause and advises on the nature of investigations, including whether caused by the domestic distribution system.
- ◆ Sets out the notification to WSA of failures to comply detected by the private water supplier.
- ◆ Sets out the requirement on private water suppliers to prepare remedial action programmes for approval by the WSA and provides comprehensive advice on the content and timing of the programmes and on the content for common types of failures.
- ◆ Describes the contents of a monitoring programme for non-compliant supplies.
- ◆ Describes the short term interim measures that must be taken by private water suppliers pending completion of a permanent action programme.
- ◆ Sets out the timescales within which action programmes must be completed by private water suppliers.
- ◆ Sets out how private water suppliers must inform consumers of the details of remedial action programmes.

Issue No:	1
Date:	12 April 2010

- ◆ Sets out the availability of departures from the standards and describes how WSAs may apply for a departure for a private water supply and the conditions the Environment Protection Agency (the EPA) may apply to a departure.

Contents of Section 6

1. Introduction and overview of Regulations 9, 10 and 11
 - 1.1 Introduction
 - 1.2 Overview of protection of human health
 - 1.3 Overview of investigations of failures
 - 1.4 Overview of remedial action
 - 1.5 Overview of departures
 - 1.6 Offences under Regulations 9 and 10
2. Protection of public human and consultation with the HSE
3. Investigation of non-compliances
 - 3.1 General
 - 3.2 Failures associated with the domestic distribution system
 - Microbiological failures
 - Lead, copper and nickel failures
4. Notification of non-compliances to the WSA
 - 4.1 Introduction
 - 4.2 Non-compliance with the standards for microbiological and chemical parameters
 - 4.3 Non-compliance with the indicator parameter values
5. Preparation of remedial action programmes
 - 5.1 Introduction
 - 5.2 Action to indentify the cause of non-compliances
 - Failures suspected to be caused by contamination of the source water
 - Failures suspected to be caused by problems with treatment and distribution
 - 5.3 Action to address the cause of non-compliance
 - Action to improve source protection
 - Action to deal with failures caused by natural conditions

Issue No:	1
Date:	12 April 2010

Action to improve treatment and treatment plant operation

Action to deal with microbiological failures

Action to deal with turbidity failures

Action to deal with disinfection by-product failures

Action to deal with failures caused by distribution network

Action to deal with failures of the lead standard

5.4 Monitoring programme for non-compliant supplies

5.5 Short term interim measures

5.6 Action programme timescales

5.7 Informing consumers of the action programme

6. Departures from the standards

Appendix 1: Model form for application for a departure from the standards in table B of the schedule to the Regulations in accordance with regulation 11

Issue No:	1
Date:	12 April 2010

1. Introduction and overview of Regulations 9, 10 and 11

1.1 Introduction

1.1.1 | Regulations 9 and 10 of the Regulations deal with the **protection of human health**, the **investigations** required and the **remedial action** to be taken when the private water supply constitutes a potential danger to human health or fails to meet the standards and indicator parameters values specified in the Regulations. Regulation 11 makes provision for a departure from the parametric values specified in table B in part 1 of the schedule to the Regulations.

1.1.2 | In the context of regulations 9 and 10, **Water Services Authorities (WSAs)** have been assigned specific powers to **supervise private water suppliers** and enforce the standards and other requirements in relation to the quality of private water supplies and the Environment Protection Agency (the EPA) has specific powers to supervise some of the activities of WSAs in relation to private water supplies. The Regulations also authorise the EPA to prepare legally binding guidance on specific areas of regulations 9 and 10 and they make it an offence for private water suppliers to fail to comply with specific aspects of these Regulations. The guidance in this section is issued pursuant to regulations 9(5) and 10(8) and private water suppliers and WSAs should take this guidance fully into account when fulfilling their obligations under regulations 9 and 10.

1.1.3 | The EPA recommends that each private water supplier should have written procedures as part of a Quality Assurance System (QAS) (such as that advocated by the National Federation of Group Water Schemes, NFGWS) for dealing with non-compliances with the standards in tables A and B of part 1 of the schedule to the Regulations and non-compliances of the indicator parameter values in table C of part 1 of the schedule to the Regulations. These procedures should cover the protection of human health, investigations of non-compliances and remedial action. Each private water supplier should have arrangements with the relevant WSA for immediate notification of any result that the WSA or its contract laboratory finds does not comply with a standard or exceeds an indicator parameter value.

Issue No:	1
Date:	12 April 2010

1.2 Overview of protection of human health

1.2.1 | Regulation 9 deals with circumstances where there may be a potential danger to human health due to the failure of a private water supply to meet a standard or indicator parametric value as specified in part 1 of the schedule to the Regulations or due to the presence of some other substance or micro-organism. Regulation 9 requires the WSA to:

- ◆ firstly, consult and agree with the Health Service Executive (the HSE) to determine whether there is a potential danger to human health, then to;
- ◆ ensure that the private water supplier restricts or prohibits the use of water or takes other action to protect consumers, if such a potential danger to human health exists;
- ◆ ensure that the private water supplier informs the consumers of the above actions; and
- ◆ issue such Directions as it considers necessary to the private water supplier to ensure that appropriate measures are taken to prevent, limit, eliminate or abate any risk to human health.

1.2.2 | In considering the action to be taken the WSA must have regard, in consultation and agreement with the HSE, to the risk to human health that would be caused by the interruption of supply or restriction of use. It is an offence for a private water supplier to fail to comply with a Direction issued by a WSA.

1.3 Overview of investigations of failures

1.3.1 | Each WSA is required by regulation 10(1) to ensure that any failure to meet the parametric values specified in part 1 of the schedule to the Regulations in a private water supply is immediately investigated to determine the cause of such failure. The private water supplier, as part of its QAS (such as that advocated by the National Federation of Group Water Schemes, NFGWS) should develop and implement a system to investigate non-compliances and include it in its written procedures. Where a private water supplier discovers a failure to meet the parametric values, for example through its own operational monitoring programme or because a treatment process has failed, it must notify the WSA of that failure (regulation 10(2)).

Issue No:	1
Date:	12 April 2010

1.4 Overview of remedial action

1.4.1 | Regulation 10 of the Regulations sets out the actions that the WSA must take in the event of a failure of a private water supply to meet a parametric value as specified in tables A, B or C of the schedule of the Regulations. Regulation 10 places a number of specific legal obligations on the WSA as the supervisory authority of its private water suppliers when a non-compliance with the parametric value has been detected as a result of the WSA's routine compliance monitoring or the private water supplier's operational monitoring or monitoring following a consumer complaint. These include the requirement for the WSA to ensure that the private water supplier:

- ◆ immediately investigates the cause of the failure;
- ◆ carries out remedial action as soon as possible;
- ◆ prepares an action programme for the improvement of the quality of water so as to secure compliance with the Regulations within 60 days of being directed to do so by the WSA;
- ◆ implements the action programme within one year of the approval of the action programme if the non-compliance presents a risk to human health or within two years if the non-compliance does not present a risk to human health; and
- ◆ ensures that consumers are informed of the corrective action where the non-compliance is non-trivial.

The WSA also has to ensure that it gives priority to enforcement action having regard to the extent of the non-compliance and the potential danger to human health. The WSA may review and amend as necessary the action programme prepared by the private water supplier before it approves the programme.

1.4.2 | The role of the EPA is also outlined in Regulation 10. The EPA may issue guidelines in relation to the nature and timing of remedial, enforcement or other relevant action. This section of the guidance is issued pursuant to Regulation 10(8) and this section should be considered as the EPA guidelines in relation to the nature and timing of remedial, enforcement or other relevant action.

Issue No:	1
Date:	12 April 2010

1.5 Overview of departures

1.5.1 | Regulation 11 makes provision for a departure from the parametric values specified in table B in part 1 of the schedule to the Regulations. A departure in respect of a private water supply may, on application by a WSA and subject to agreement with the HSE, be granted by the EPA in relation to that water supply up to a maximum value for the parameter, provided that it does not constitute a potential danger to human health and that the supply of water cannot be maintained by any other reasonable means. A departure is in effect permission to the private water supplier to continue supplying water that does not comply with the standards whilst remedial action is taken provided there is not a potential danger to human health.

1.5.2 | This section sets out what WSAs must include in any application for a departure and specifies what the EPA must include as conditions associated with any departure it grants to the WSA and its private water supplier.

1.6 Offences under Regulations 9 and 10

1.6.1 | In accordance with Regulations 9 and 10 it is now an offence for a private water supplier to:

- ◆ fail to comply with a direction from the relevant WSA to prevent, limit, eliminate or abate a non-compliance or take appropriate measures to deal with the presence of a substance or micro-organism for which no quality standard has been prescribed, where there is a risk to human health - regulation 9(6);
- ◆ fail to notify the relevant WSA when it discovers a failure to meet the parametric values of Part 1 of the schedule to the Regulations in accordance with the EPA guidelines as outlined in this section of this handbook – regulation 10(3);
- ◆ fail to comply with a direction to submit an action programme within 60 days of being directed to do so by the relevant WSA and implement such action programme, as amended by the WSA, for the improvement of the quality of water so as to secure compliance as soon as possible and no later than one year from the date of approval in the case of a non-compliance which presents a risk to human health and two years in the case of other non-compliances - regulation 10(12)(a);
- ◆ fail to inform consumers of the remedial action taken in accordance with the action programme - regulation 10(12)(b);

Issue No:	1
Date:	12 April 2010

- ◆ fail to maintain records of an incident as outlined in regulation 10(12)(c); and
- ◆ fail to make a record available to the relevant WSA on request - regulation 10(12)(d).

2. Protection of human health and consultation with the HSE

2.1 | Whenever a drinking water sample from a private water supply (compliance, operational, investigation of consumer complaint or incident) has failed to meet the parametric value for any of the parameters in part 1 of the schedule to the Regulations, the WSA must determine whether the non-compliance presents a risk/potential danger to human health. This also applies to situations where there has not been an identified non-compliance with a parametric value but there could be a potential danger to human health such as:

- ◆ the presence of a substance or micro-organism for which no standard is specified in the Regulations;
- ◆ detection of an inefficiency of the disinfection process (such as insufficient chlorine in the final water to ensure that disinfection is complete); and
- ◆ an unexpected increase in the concentration or value of a parameter but not exceeding the parametric value indicating contamination or a problem with a treatment process (such as turbidity indicating inefficient filtration).

Consequently, each WSA should have in place documented procedures for consultation with the HSE when non-compliance is detected or another potential health risk exists. It should also have documented procedures for consulting the private water supplier to obtain information on any relevant operational monitoring around the time of the failure and any problems in the catchment or with the operation of any treatment processes and the distribution network. These procedures should include, as a minimum:

- ◆ contact details of the relevant personnel in the HSE;
- ◆ contact details of the relevant personnel in the private water supplier;

Issue No:	1
Date:	12 April 2010

- ◆ details of what additional information should be sent to the HSE in the event of a non-compliance (such as the results of investigations of the cause of the failure carried out by the private water supplier); and
- ◆ details of agreed actions to be taken in the event of specific failures (e.g. *E. coli*, detection of *Cryptosporidium* or the issue of a boil notice).

2.2 | WSAs should be aware that the HSE has published a document “Drinking Water and Health – a Review and Guide for Population Health, Health Service Executive 2008” (www.hse.ie/eng/services/Publications/services/Environmentalhealth/HSE_Drinking_Water_and_Health_Review_and_Guide_2008.pdf). This recognises the key role that the HSE has in assessing and advising WSAs and the EPA on potential risks to human health. The primary purpose of the document is to assure increased consistency of approach from and between HSE staff of different professional backgrounds who are involved with drinking water safety throughout Ireland. WSAs should also be aware that HSE has prepared a document “Guidelines proposed by the Health Service Executive as a template document between the Health Service Executive and Water Services Authorities for Dealing with Exceedances and Incidents in Water Supplies” which is intended to facilitate a standardised framework nationally for dealing with microbiological, chemical and indicator parameter failures and incidents.

2.3 | When the HSE advises a WSA that there is a potential danger to human health from a private water supply, the WSA must ensure that action is taken to protect the consumers. The WSA must agree the action with the HSE which will be either to prohibit the supply of water from the private water supply or to restrict the use of the water. But in reaching that agreement both WSA and the HSE must have regard to the risks to human health that would be caused by an interruption to the supply or restriction of the use of the supply. The WSA and the HSE must also agree the criteria to be used to decide when to stop the interruption to the supply or the restriction of its use. Once agreement has been reached, the WSA must ensure that the private water supplier issues the advice promptly to consumers. In the majority of situations the action will consist of restriction of the use of the supply by advising consumers to:

- ◆ boil water before using for drinking and food preparation, for example when there is a failure of a microbiological parameter or a problem with disinfection; or

Issue No:	1
Date:	12 April 2010

- ◆ not to use the water for drinking and food preparation (the supply can still be used for other purposes), for example when there has been a serious failure of a chemical parameter. In this case the private water supplier must make arrangements to provide an alternative supply of water for drinking and food preparation such as in tankers or other appropriate containers. The WSA may be able to assist the private water supplier when such arrangements are necessary.

2.4 | If the WSA is not satisfied with the action being taken by the private water supplier, it must, in consultation and agreement with the HSE, issue a direction to the private water supplier to ensure that appropriate measures are taken to prevent, limit, eliminate or abate the risk to human health.

2.5 | Each private water supplier should have documented written procedures for the issue of the advice to consumers as part of its QAS (such as that advocated by the National Federation of Group Water Schemes, NFGWS). Each private water supplier should also have:

- ◆ model leaflets for:
 - interruption to a supply with details of the availability of an alternative supply in tankers or containers;
 - advice to boil water notices with guidance on how to boil the water and what to use the boiled water for;
 - advice not to use water for drinking and food preparation with details of the availability of an alternative supply in tankers or containers;
 - withdrawal of the above advice;

and these leaflets:

- ◆ should be capable of adaptation quickly to any situation where there is a potential danger to human health;
- ◆ should be very clear and use simple language; and
- ◆ may need to be provided in languages other than English in some cases (e.g. Irish and other languages).

Issue No:	1
Date:	12 April 2010

Examples of the most common leaflets (notices) used by Scottish Water are contained in Appendix G of the Guidance Document for the Drinking Water Incident response Plan (DWIRP) published by the Water Services Training Group (WSTG) (see paragraph 3.1.1 of section 8 of this handbook).

3. Investigations of non-compliances

3.1 General

3.1.1 | Each WSA is required by regulation 10(1) to ensure that any failure to meet the parametric values specified in part 1 of the schedule to the Regulations in a private water supply is immediately investigated by the private water supplier to determine the cause of such failure. Each private water supplier, as part of its QAS, should develop and implement a system to investigate non-compliances and include it in its written procedures. This should include procedures and protocols to investigate the following:

- ◆ a review of previous compliance and operational monitoring results for that parameter at the same or similar sampling points in the affected water supply;
- ◆ a review of any compliance and operational monitoring results for that parameter at associated sampling points (for example at the treatment works for a failure within a supply zone);
- ◆ a review of the operation of the treatment works, service reservoir/water tower or distribution network associated with the failure;
- ◆ where the failure is with a microbiological parametric value then a review of the effectiveness and robustness of the disinfection and other treatment processes should be carried out to include a review of results and residual chlorine levels for the supply three days either side of the date the non-compliant sample was taken, review of the chlorine dosing systems and procedures, review of the maintenance of residual chlorine at the plant and in the distribution system and review of the integrity of the distribution network including service reservoirs. Where UV treatment forms part of the disinfection process the operation of this process should be thoroughly reviewed;
- ◆ a procedure to determine whether there has been any event in the catchment that might be responsible for the failure;

Issue No:	1
Date:	12 April 2010

- ◆ a procedure for taking further samples from the same point and if necessary from associated points;
- ◆ when the failure is suspected to be due to the condition of the consumer's tap, further samples should be taken from such points as will help to assess whether the failure was caused by the condition of the pipe work and fittings in the consumer's premises. Inspection of the consumer's pipe work and fittings may be necessary. In addition samples should be taken of the treated water leaving the drinking water treatment plant;
- ◆ when the failure is due to the presence of *E. coli* or coliform bacteria in a sample taken from a consumer's tap, a sample shall be taken before and after disinfection of the tap and a swab sample from the surfaces of the tap that come into contact with water; and
- ◆ when the failure is lead or copper or nickel in respect of a sample taken from a consumer's tap, the private water supplier in consultation with the WSA should consider wider sampling from other premises in the supply zone to establish whether the failure is restricted to one premises or whether there is a risk of failures at many premises in the zone.

3.2 Failures associated with the domestic distribution system

3.2.1 | One of the matters that the investigation has to establish is whether the cause of the failure of the standard or an indicator parameter value is due to the condition of the pipe work and fittings in the premises (i.e. the domestic distribution system) or other factors. The WSA will only consider failures to be attributable to pipe work and fittings where the private water supplier demonstrates comprehensively that it has carried out a detailed investigation with supporting evidence to show that consumer's plumbing is most likely to be the cause of the failure.

Microbiological failures

3.2.2 | Microbiological parameters, such as *E. coli* or coliform bacteria, may be influenced by the condition of the pipe work and fittings and particularly the design and hygienic status of the consumer's tap. The outcome of the further analysis described

Issue No:	1
Date:	12 April 2010

above provides important information on the likelihood that the non-compliance is attributable to the condition of the pipe work and fittings. There is a strong indication that the non-compliance is attributable to the pipe work and fittings when:

- ◆ the non-compliance recurs in the further sample from the original consumer's tap but all other samples in the supply zone meet the relevant standards or indicator parameter values; or
- ◆ the non-compliance recurs in a sample taken from the original consumer's tap before disinfection, but does not occur in a sample following disinfection.

Lead, copper and nickel failures

3.2.3 | Non-compliances with the standards for copper, lead and nickel at the consumer's tap may be associated with the consumer's pipe work and fittings or the private water supplier's pipe work as the water interacts with copper or lead pipes (or solders) and brass fittings and plated taps that contain nickel. The private water supplier's investigation should establish whether these metals are present in its pipe work (unlikely to be the case for nickel) and whether they are present in the consumer's pipe work and fittings. It should also establish whether non-compliances also occur in similar premises in the supply zone.

3.2.4 | If these metals are present **only in the private water supplier's pipe work**, then the private water supplier is required to take action by following the advice in the EPA Guidance Circulars No. 1 (Lead compliance monitoring and surveys) and No.2 (Action programmes to restore the quality of drinking water impacted by lead pipes and lead plumbing). If they are present **only in the consumer's pipe work and fittings**, then the private water supplier should provide advice to consumers on the action they can take to reduce their exposure to these metals. If these metals are present in **both the private water supplier's and the consumer's pipe work**, then the private water supplier should follow the advice in EPA Guidance Circulars No. 1 and No. 2.

3.2.5 | This advice particularly applies to **lead** which has been widely used in the past and most private water supplies are plumbosolvent unless adequately treated. There is a perception that lead is not an issue in private water supplies, but that needs to be confirmed by investigation. Further advice on investigation and action in respect of lead failures is given in paragraphs 5.3.14 – 5.3.24 of this section.

Issue No:	1
Date:	12 April 2010

4. Notification of non-compliances to the WSA

4.1 Introduction

4.1.1 | Regulation 10(2) places an obligation on each private water supplier to notify the relevant WSA as soon as it becomes aware of a failure to meet the parametric values in part 1 of the schedule of the Regulations. The WSA will be aware of most failures to comply because the WSA is required to carry out the compliance monitoring of private water supplies in its functional area. A private water supplier may become aware of other failures or potential failures as a consequence of its operations or the operational monitoring it carries out on the raw water, the treatment processes, the water leaving treatment works and the water in the distribution network. Any failures detected during its operations (for example a failure of a treatment process, such as disinfection) or the operational monitoring must be notified to the WSA.

4.1.2 | It is an offence for a private water supplier to fail to notify the relevant WSA in accordance with regulation 10(2).

4.1.3 | The only exception to the requirement for prompt notification of a failure to meet the parametric values in tables A and B of the schedule of the Regulations relates to the fluoride parameter where the private water supply is artificially fluoridated. However, it is understood that currently no private water supplies are fluoridated, but some Public Group Water Schemes (PUGWS) may be fluoridated by the WSAs and then distributed by the private water suppliers. WSAs will be aware of any failure to meet the fluoride parameter because they will be monitoring their own fluoridated supplies and they will also be monitoring those of their fluoridated supplies distributed by a PuGWS.

4.1.4 | Also in accordance with regulation 10(10) each private water supplier shall maintain a record of any incidence of failure to meet the parametric values specified in Part 1 of the schedule to the Regulations that it has detected. This record shall be kept for inspection by the relevant WSA.

Issue No:	1
Date:	12 April 2010

5. Preparation of remedial action programmes

5.1 Introduction

5.1.1 | When the WSA has detected a failure of a private water supply to meet a parametric value specified in part 1 of the schedule to the Regulations in its compliance monitoring or it has been notified by the private water supplier of a failure in accordance with regulation 10(2) (see sub-section 4 above) and the WSA has directed a private water supplier to prepare an action programme and to submit it for approval, the private water supplier must prepare this programme within the timeframe specified in the direction (and not exceeding 60 days). The following paragraphs provide guidance from the EPA to WSAs and private water suppliers on the nature and timing of remedial, enforcement or other relevant action in accordance with regulation 10(8).

5.1.2 | The private water supplier's action programme must ensure compliance with the Regulations. It must be submitted to the WSA within the period specified in the WSA's direction and it should be sent in accordance with the instructions in the direction and must be a copy signed by an authorised person of the private water supplier. The action programme should contain as a minimum:

- ◆ actions taken/to be taken to identify the cause of the non-compliance;
- ◆ actions taken/to be taken to address the cause of the non-compliance including details of any enforcement (under the Local Government (Water Pollution) Act 1977-1990 including enforcement of discharge licences under Section 4) and source protection measures proposed/implemented;
- ◆ actions taken/to be taken to improve the treatment at the plant;
- ◆ a proposed increased monitoring programme for the parameter that failed to meet the standards for the duration of the action programme;
- ◆ interim measures taken/to be taken to prevent, limit, eliminate or abate the likelihood of a failure in the short term;
- ◆ proposed timescales and reporting frequencies for all of the actions to be taken above;
- ◆ details of the documented management and control system in place; and

Issue No:	1
Date:	12 April 2010

- ◆ details of how consumers are to be informed of the actions taken/to be taken.

5.1.3 | Private water suppliers should note that an action programme (amended if necessary by the WSA under regulation 10(6)) is a legally binding document and failure to submit and implement an action programme is an offence under regulation 10(12)(a). Therefore, private water suppliers should consider carefully the information that is to be included as part of the action programme and should include the actions it intends to carry out and should not contain unrealistic actions or timescales. It may be helpful for the private water supplier to discuss its proposed action programme with the WSA before submitting its programme.

5.2 Actions to identify the cause of non-compliances

Failures suspected to be caused by contamination of the source water

5.2.1 | If the cause of the failure is suspected to be contamination of the source of the water then the action programme could include any or all of the following actions:

- ◆ **Assessment of the geology and hydrogeology of the source** – this is to determine whether natural substances are likely to be present in significant concentrations. This may be relevant to naturally occurring metals and substances such as arsenic, fluoride, mercury, chloride, iron, manganese or sulphates. The investigations into the geology and hydrogeology should include, as a minimum, an examination of:
 - borehole logs for the well;
 - geological maps;
 - any geochemical data for geological formations;
 - hydrogeological flow regime; and
 - source water quality trends.
- ◆ **Identification of potentially polluting activities in the catchment or zone of contribution of the source** – where it is suspected that there are potentially polluting activities in the catchment or zone of contribution, a catchment inspection

Issue No:	1
Date:	12 April 2010

should be carried out. The investigations into the source of the pollution should include the identification and assessment of the following activities in the zone of contribution or catchment:

- discharges from waste water treatment plants;
- storm water over flows;
 - ❖ the location and effectiveness of septic tanks or other on-site treatment systems;
 - ❖ discharges licensed under Section 4 of the Local Government (Water Pollution) Act 1977;
 - ❖ discharges from facilities licensed by the EPA under the Environment Protection Act 1992 and the Waste Management Act 1996 (as amended);
 - ❖ agricultural activities (in particular farm yard management and land spreading activities);
 - ❖ forestry activities;
 - ❖ other industrial activities such as waste management, mining, quarrying or other similar activities; and
 - ❖ source water quality trends.
- ◆ **Liaison with the teams implementing the River Basin Management Plan** in carrying out the investigation and in developing measures to improve site specific source protection.

Failures suspected to be caused by problems with treatment or distribution

5.2.2 | If the cause of the **failure is suspected to be a problem with the treatment of the source water or the water distribution network** then the action programme could include any or all of the following actions:

- ◆ **Review of the operation of the water treatment plant** – an assessment of the operation of the water treatment plant should be carried out which should include any or all of the following reviews of:

Issue No:	1
Date:	12 April 2010

- recent daily operational monitoring results at the water treatment plant;
 - recent compliance check/audit monitoring results in the distribution network (and at the treatment works where permitted for specified parameters);
 - treatment processes at the plant including chemical dosing regimes, coagulation and clarification procedures, filter operation (backwashing arrangements and media adequacy), disinfection, operational monitoring frequency and process alarms;
 - recent operational changes made to the treatment plant including adjustment of chemical dosing, flows, pumps, pipe work and filter media;
 - recent operational problems including alarms (which should be recorded in the caretakers diary and/or on the SCADA system); and
 - the ability of the existing treatment plant to treat the water adequately in order to meet the standards and indicator parameter values in the Regulations.
- ◆ **Review of the management and operation of the distribution network** – the management and operation of the distribution network should be examined including the identification of any or all of the following:
- changes to the operation of the distribution network such as introducing water from a different works or part of the network, flow reversals and pressure changes;
 - consumer complaints about drinking water quality (appearance, taste, odour)
 - flushing/scouring regime for the distribution system;
 - possible contamination following recent pipe replacement;
 - leakage; and
 - dead ends, service reservoirs or vulnerable parts of the network.

The action programme should clearly state how the private water supplier intends to identify the cause of the failure (if not already known) and should include details of how the investigation is to be carried out. Specific timeframes for the different aspects of the investigation must be included in the action programme.

Issue No:	1
Date:	12 April 2010

5.3 Actions to address the cause of non-compliance

5.3.1 | Having identified the cause or suspected cause of the non-compliance the private water supplier must determine the specific actions that are to be taken to prevent, limit, eliminate or abate the cause of the non-compliance. The following paragraphs provide specific guidance on the actions to deal with common causes of failures.

Action to improve source protection

5.3.2 | Where the cause of the non-compliance has been identified as originating from pollution of the source of the supply the private water supplier must take action to prevent, limit, eliminate or abate the source of the pollution, it is not sufficient simply to improve treatment at the plant to compensate for poor raw water quality. The root cause of the problem must be addressed. It is recognised that the private water supplier has no direct control over the quality of the source water and will need the assistance of the WSA and other agencies in formulating and carrying out any necessary actions. Actions taken to address the cause of the non-compliance could include:

- ◆ implementation of sustainable planning policies to protect source water;
- ◆ improvements in waste water treatment plants;
- ◆ elimination or relocation of storm water overflows;
- ◆ fencing off of the source of the supply;
- ◆ restriction of land spreading within the zone of contribution or within the exclusion zones as per the European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2009 (S.I. No. 101 of 2009);
- ◆ enforcement action under the Local Government (Water Pollution) Act 1977-1990 including enforcement of Section 4 licences;
- ◆ liaison with the EPA regarding discharges from EPA licensed facilities; and
- ◆ working with the teams implementing the River Basin Management Plans to improve source protection measures.

Issue No:	1
Date:	12 April 2010

Action to deal with failures caused by natural conditions

5.3.3 | In some cases, such as where the source of the non-compliance is natural or persistent, it may not be possible to take actions to address the cause of the non-compliance within the short to medium term or it may not be possible at all (if the cause of the non-compliance is natural e.g. arsenic). In such cases, replacement of the source may be necessary or alternatively the treatment processes may need to be upgraded or optimised to ensure compliance. However, in all cases every effort must be made to eliminate or reduce the cause of the non-compliance from the source. In many cases this will be done in tandem with the provision of improved treatment.

Action to improve treatment and treatment plant operation

5.3.4 | Where every action has been taken to improve the quality of the source of the water so as to prevent, limit, eliminate or abate the likelihood of non-compliance and these actions are not sufficient, additional actions to improve the treatment process should be detailed in the action programme. Also in cases where the failure of the treatment plant has caused the non-compliance the private water supplier must outline in the action programme the actions to be taken to improve the treatment process. These actions could include:

- ◆ adjustment of chemical dosing regime;
- ◆ adjustment of treatment practices and procedures (e.g. coagulation/clarification conditions, filter operation and backwashing frequency, disinfection);
- ◆ replacement of filter media;
- ◆ addition of new treatment processes or modification of existing processes;
- ◆ installation of continuous monitoring and alarms for chlorine and turbidity;
- ◆ up-grade of the treatment plant;
- ◆ improved maintenance of treatment plant;
- ◆ additional training to be given to plant operatives; and
- ◆ increased monitoring at water treatment plant.

Issue No:	1
Date:	12 April 2010

Action to deal with microbiological failures

5.3.5 | Where there is a failure to meet a standard for a microbiological parameter value or microbiological indicator parameter value, the private water supplier should examine the operation of the disinfection system as a priority (if there is no disinfection process, an appropriate process should be installed as a matter of urgency). Where chlorination is used as the means of disinfection, as a minimum, the EPA expects that all treatment plants should be operated in accordance with the following guidance:

- ◆ only drinking water that is appropriately disinfected should be distributed;
- ◆ treated water should contain residual chlorine at a concentration of 0.5 mg/l for at least 30 minutes contact time prior to supply to consumers to ensure that the disinfection is complete. It is recognised that for some very small supplies 30 minutes contact may not be practical and in such circumstances the private water supplier should ensure that there is an adequate chlorine residual at the last property on the distribution network. The private water supplier should review the chlorine dose, the contact time and the chlorine residual in the network on a site-specific basis;
- ◆ ideally the final treated water (prior to entry into the distribution network) should have a continuous residual chlorine monitor and this monitor should be linked to a recording device and alarmed to ensure that a deviation in the levels of residual chlorine from pre-defined upper and lower limits are immediately detected. The alarm should be linked by telemetry or a cascade dial up system to a relevant person in the private water supplier so that corrective action can be taken immediately to deal with the failure of, or problem with, the disinfection system;
- ◆ where the source of the water is surface water (or groundwater influenced by surface water) the treatment of the water should not consist solely of chlorination; and
- ◆ the residual chlorine at the extremities of the distribution network must be at a concentration of at least 0.1 mg/l.

5.3.6 | Detailed advice from the EPA on dealing with *E. coli* (and enterococci) failures is given in Advice Note No. 3 “*E. coli* in Drinking Water” which includes:

- ◆ determination of whether the presence of *E. coli* constitutes a potential danger to human health and the implementation of immediate health protection measures;

Issue No:	1
Date:	12 April 2010

- ◆ determination of the cause of the failure to meet the *E. coli* parametric value; and
- ◆ identification of the measures necessary to improve the security of the supply and implementation of an action programme.

The advice also includes EPA recommendations on disinfection measures including:

- ◆ **chlorination:** including continuous chlorine monitors, chlorine contact time, duty and standby dosing arrangements and flow proportional or chlorine monitor controlled dosage and re-chlorination within the distribution network; and
- ◆ **ultraviolet (UV):** validation certificate for the lamp, monitoring of UV intensity or transmissivity and verification, duty and standby UV lamps or auto shut-down on lamp failure and secondary disinfection (e.g. chlorination) in the distribution network.

Action to deal with turbidity failures

5.3.7 | Turbidity is listed as an indicator parameter in the Regulations which states that the levels must be “Acceptable to consumers and no abnormal change”. There is a footnote in the Regulations that states in the case of surface water treatment a parametric value not exceeding 1.0 NTU in the water ex treatment works must be strived for. The turbidity levels (and colour) should be as low as possible prior to chlorination to ensure that disinfection is effective and the formation of disinfection by-products (such as trihalomethanes) is kept to a minimum. Colour should be kept below 20 mgPt.Co/l (Hazen). **Elevated turbidity in the treated water indicates that the treatment process is not operating adequately.**

5.3.8 | Although the indicator parametric value of 1.0 NTU is regarded as an aesthetic value, in practice it is a process control standard. Monitoring for *Cryptosporidium* cannot be used for process control, as it cannot be measured in real time so an alternative surrogate parameter is required. Turbidity is the best available and in order to maximise the removal of *Cryptosporidium* oocysts treatment plants need to be designed and operated to achieve minimum turbidity values in the treated water. Low filtered water turbidity also enhances the performance of *Cryptosporidium* removal or deactivation treatment technology when fitted such as membrane filtration or ultra violet (UV) disinfection. The 1.0 NTU level is an acceptable aesthetic standard so long as the source is not at risk from *Cryptosporidium*. If there is a risk of *Cryptosporidium*

Issue No:	1
Date:	12 April 2010

in the source water then private water suppliers should strive to minimise treated water turbidity as far below 1.0 NTU as is reasonably practical. **The EPA recommends that treatment processes should be optimised so that the turbidity in the water leaving treatment works is less than 0.2 NTU.**

5.3.9 | Detailed advice from the EPA on dealing with turbidity failures is given in Advice Note No. 5 “Turbidity in Drinking Water” which includes:

- ◆ turbidity levels to be achieved at the water treatment plant;
- ◆ action to be taken by the operator including:
 - ensure adequate treatment is in place to remove turbidity;
 - improvements in monitoring at the water treatment plant to:
 - ❖ assess the adequacy of water treatment plant;
 - ❖ set appropriate alarm levels on the stages of the treatment plant; and
 - ❖ put in place procedures to deal with elevated levels of turbidity;
 - optimisation and improved of the existing treatment processes;
 - ❖ assessing the adequacy of filters;
 - ❖ management of the backwash cycle; and
 - ❖ management of the filter backwash water.

Action to deal with disinfection by-product failures

5.3.10 | The Regulations set standards for the following disinfection by-products (DBPs):

- ◆ 100 µg/l for total trihalomethanes (THMs) (the sum of the concentrations of chloroform, bromoform, dibromochloromethane and bromodichloromethane). THMs are formed by the reaction of organic matter in the raw water (such as humic and fulvic acids) and chlorine used for oxidation and disinfection;

Issue No:	1
Date:	12 April 2010

- ◆ 10 µg/l for bromate. Bromate is formed when ozone, used as an oxidant and disinfectant, reacts with bromide in the raw water. Bromate is also present in sodium hypochlorite used for chlorination; and
- ◆ 0.5 mg/l nitrite. Nitrite is formed when chloramination (monochloramine) is used as the disinfectant.

There are many other DBPs that are not regulated at present but may be regulated in the future. These include haloacetic acids formed by reaction of chlorine with organic matter, chlorite and chlorate formed when chlorine dioxide is used as an oxidant and disinfectant.

5.3.11 | Some private water supplies currently fail to meet the THMs standard and private water suppliers need to investigate these failures and take action to ensure they comply with the standard. The causes of THM failures and the actions necessary vary with the nature of the raw water, the treatment processes and the way chlorination is used. Private water suppliers must ensure that any action to reduce THM concentrations (and other DBPs) does not compromise the efficiency of disinfection.

5.3.12 | Detailed advice from the EPA on dealing with DBP failures is given in Advice Note No. 4 “Disinfection By-products in Drinking Water” which includes:

- ◆ formation of DBPs – conditions of formation, lists of disinfectants and DBPs and the World Health Organisation’s guideline values and the US Environment Protection Agency’s maximum contaminant levels;
- ◆ investigations into the causes of DBP failures – lists main causes; and
- ◆ measures to reduce DBP concentrations – lists the possible actions and situations where they could be used.

Action to deal with failures caused by the distribution network

5.3.13 | When the cause of the failure may be due to contamination within the distribution network the guidance on water distribution and related matters provided in section 12 of this handbook should be followed. Where the distribution network has been identified as the cause of the non-compliance the corrective action taken by the private water supplier may include:

Issue No:	1
Date:	12 April 2010

- ◆ modification to the operation of the distribution network (such as to avoid high flows and flow reversals;
- ◆ flushing/scouring the mains;
- ◆ installation of chlorine booster stations in the network;
- ◆ installation of automatic continuous chlorine monitors at the outlet from a service reservoir or water tower and at appropriate points in the distribution network;
- ◆ replacement/refurbishment of corroded/leaking pipe work;
- ◆ maintenance of service reservoirs and water towers; and
- ◆ replacement of old pipe work (e.g. lead service mains).

Action to deal with failures of the lead standard

5.3.14 | Sub-section 8.3 of Appendix 2 of section 4 of this handbook explains why the relatively few compliance audit monitoring samples for lead may not give a true picture of lead concentrations at consumers' taps within the zone because they can be highly variable. The results can depend on:

- ◆ the length of any lead distribution mains;
- ◆ the length of lead pipe, if any, in the private water supplier's part of the service connection pipe to the premises (in general the private water supplier owns the part of the service connection from the mains to the external stop tap located usually just outside the boundary to the premises and the owner of the property owns the part of the service connection from the stop tap to the internal stop tap within the premises);
- ◆ the length of lead pipe, if any, in the property owner's part of the service connection pipe to the premises;
- ◆ the length of lead pipe, if any, within the internal plumbing to the kitchen tap in the property;
- ◆ the presence of copper pipe work joined by lead based solder;

Issue No:	1
Date:	12 April 2010

- ◆ the type of sample taken (fully flushed, random daytime and stagnation);
- ◆ the time of sampling in relation to previous water use within the property (generally a sample taken following recent water use will have a lower lead concentration than a sample taken after a long period of no water use); and
- ◆ the volume of sample collected.

In that sub-section, the EPA recommended that WSAs and private water suppliers supplement the compliance audit monitoring with **lead surveys** as part as of investigations into non-compliance with the lead standard. There is a perception that lead is not an issue in private water supplies, but that needs to be confirmed. If a private water supplier has evidence from the construction of the water supply and its connection to all the premises supplied that lead is not present in the private water supplier's pipe work or pipe work belonging to the owners/occupiers of the premises, it need not take the action set out in the following paragraphs. However, whenever there is a failure to meet the lead standard the private water supplier will need to take action. The following paragraphs give advice of lead surveys and subsequent remedial action. Private water suppliers should also consult EPA Guidance Circulars No. 1 (Lead compliance monitoring and surveys) and No.2 (Action programmes to restore the quality of drinking water impacted by lead pipes and lead plumbing).

5.3.15 | The purpose of a **lead survey** is to determine the extent of lead pipes in the distribution network, the supply pipe work (service connections) and the internal plumbing within premises. The survey should comprise the following actions:

- ◆ identification of any lead distribution mains in the ownership of the private water supplier;
- ◆ identification of any lead pipe work in the service connection in the ownership of the private water supplier;
- ◆ identification of any lead pipe work in the service connection in the ownership of the property owner;
- ◆ identification of the extent of any lead plumbing in public buildings;
- ◆ identification of the extent of any lead plumbing in domestic dwellings; and

Issue No:	1
Date:	12 April 2010

- ◆ targeted monitoring for lead in water supply zones where the information is uncertain or further information is required – this monitoring is the final component of a lead survey.

WSAs and private water suppliers should plan their lead surveys in consultation with the local Environmental Health Officers and Specialists in Public Health Medicine of the HSE. Further advice on the actions is given in the paragraphs below.

5.3.16 | Generally it can be assumed that any mains, service connections and properties constructed after 1970 will not contain lead pipes, unless a private water supplier has specific information to indicate otherwise. Private water suppliers should review available distribution maps and records for each supply zone to determine whether lead was used in the mains or service connection and whether replacement of any lead pipe work has taken place since the original installation. Private water suppliers should consult caretakers, fitters and other operatives who may have information about lead pipe work that is not documented or readily available. Results of compliance monitoring under these Regulations or the previous Regulations (SI 439 of 2000) and results of any previous investigative monitoring may assist in confirming the presence of lead pipe. Where gaps exist private water suppliers should commence a programme of investigation.

5.3.17 | Each private water supplier should review its records to determine whether there are any **lead distribution mains** in any of its supply zones. The EPA understands that the presence of lead distribution mains is rare, but it is aware of a few cases. If a private water supplier has a lead distribution main, it should make arrangements to replace it as quickly as possible as it will not comply with the 10 µg/l lead standard at consumers' taps in any premises supplied through the lead main.

5.3.18 | Each private water supplier should review its records etc and map each of its supply zones to show the locations of **lead service connections in the ownership of the private water supplier**. Connections laid before 1970 (properties built before 1970) should be assumed to contain lead pipes unless the private water supplier has specific information that confirms the absence of lead pipes (such as areas where the connections are known to be of another material or housing estates were all the lead service connections have been renewed). Where gaps exist a programme of inspection of external stop tap types (where they exist) may help private water suppliers determine

Issue No:	1
Date:	12 April 2010

the likely presence of lead pipe and if necessary excavation at typical stop taps in the area to confirm the presence or absence of lead pipe. A similar procedure should be followed for **lead service connections in the ownership of the property owner.**

5.3.19 | The **private water supplier** should identify all **public buildings** supplied by a private water supply (for example but not limited to schools, hospitals, restaurants etc) that were constructed prior to 1970 where people may consume water. It should determine whether these **public buildings have lead plumbing**. The owner/manager of the building may have records or knowledge of the plumbing materials or may be aware that the internal plumbing has been replaced. Where there is doubt the owner or the private water supplier could inspect the plumbing or take an appropriate sample to confirm the presence or absence of lead plumbing. If there is a failure in a compliance sample or any other investigative sample (the private water supplier needs to notify the WSA of any such investigative failure), or there is a risk of such a failure (as there would be if there was a long length of lead pipe work) the **WSA** must ensure that appropriate action is taken to protect consumers health, in consultation and agreement with the HSE, and to achieve compliance with the lead standard. The WSA should achieve this by notifying the **owner/manager** of the building and require that person to submit to the WSA a programme of remedial action to rectify the failure and give that person advice on the action he/she can take to protect his/her health and the health of any consumers in the premises. WSAs should have written procedures for carrying out such notifications and for checking that the remedial action has been carried out. Where necessary the WSA should consider using the powers of Direction in regulation 6(3) of the Regulations in the event that action is not being taken by the owner/manager of the premises.

5.3.20 | It will not be feasible for private water suppliers to determine the full extent of **lead plumbing in domestic dwellings**. However, a private water supplier should attempt to identify the areas where such houses with lead plumbing may exist and the proportion of the supply zone these houses comprise. The private water supplier should assume, unless other information is available (e.g. where the local authority has refurbished local authority houses or local knowledge indicates that lead pipe work was used at a later date), that all houses constructed prior to 1970 are at risk of containing lead plumbing. The private water supplier should produce a map of the distribution network clearly showing areas of the distribution network where it is known that there is no lead internal plumbing within domestic dwellings (e.g. developments constructed since 1970 or areas which have been refurbished by the local authority or private developer). Public notices and engagement with local community groups may assist

Issue No:	1
Date:	12 April 2010

in delineating the extent of lead piping in the supply zone. The private water supplier should consult the relevant WSA for advice on lead in drinking water as the WSA may have a Frequently Asked Questions leaflet or have appropriate advice on its website. The HSE has a FAQ leaflet on lead in drinking water on its website (www.hse.ie/eng/services/Publications/HealthProtection/Frequently_Asked_Questions_on_Lead_in_Drinking_Water.pdf).

5.3.21 | When the steps in paragraphs 5.3.15 to 5.3.20 have been carried out, the private water supplier should produce a map of each supply zone showing areas of the supply zone that are supplied through lead pipes or are at risk of being supplied through lead pipes. The map should be dynamic and up-dated as further information becomes available. The private water supplier in consultation with the WSA should develop an **investigative monitoring programme** targeting monitoring in areas of the water supply zone that are at risk of having lead pipe work in the private water supplier's or properties' owners' system. The main purpose of this monitoring is to confirm the presence or absence of lead pipe work where information is currently unavailable. A subsidiary purpose is to provide further information about the extent of failures to meet the 10 µg/l lead standard as this is an important factor to determine the necessary human health advice.

5.3.22 | A key factor in the development of this **monitoring programme** is the method of sampling used. It is important to note that the sampling method for lead as part of the investigative monitoring programme is not the same as that for compliance monitoring under the Regulations. Sampling for compliance monitoring requires WSAs to use *"an adequate sampling method at the tap so as to be representative of the weekly average ingested by consumers and that takes account of the occurrence of peak levels that may cause adverse effects on human health"*. For compliance monitoring, the EPA recommends that the random daytime samples are used. For the purposes of investigative monitoring private water suppliers should take stagnation samples. For such samples the pipes of the sample location should be flushed and run to waste and the sample should only be taken after a 30 minute stagnation time. Stagnation samples should inform the private water supplier whether there is lead pipe work present in the service connection or the internal plumbing.

5.3.23 | In all cases where lead has been detected at levels above 10 µg/l by the private water supplier or the WSA (regardless of the sampling method used), or where the private water supplier has detected lead pipes in its own pipe work or pipe work belonging to the premises' owner (particularly serving public buildings) including but

Issue No:	1
Date:	12 April 2010

not limited to schools, hospitals and restaurants), the WSA should promptly consult with the HSE to determine whether there is, or could be, a potential danger to human health arising from the detection of lead. The WSA should inform the HSE of the type of sampling method used. Following such consultation and advice from the HSE, the WSA should require the private water supplier to inform consumers and give them the appropriate advice.

5.3.24 | If lead is present **only in the private water supplier's pipe work**, then the private water supplier is required to take action to comply either by providing additional water treatment or by replacing its pipe work. If lead is present **only in the consumer's pipe work and fittings**, then the private water supplier, in consultation with the WSA should provide advice to consumers on the action they can take to reduce their exposure to lead, [but the private water supplier should also consider additional treatment if other premises in the supply zone also show non-compliance]. If lead is present in **both the private water supplier's and the consumer's pipe work**, then the private water supplier should consider additional treatment (particularly if other premises in the supply zone also show non-compliance), replacement of its pipe work if treatment is not effective or practical in securing compliance and provision of advice to consumers on the action they can take to reduce their exposure to lead.

5.4 Monitoring programme for non-compliant supplies

5.4.1 | The monitoring frequencies for the audit parameters are relatively low and in most private water supplies WSAs may only need to take only one sample per year to comply with the Regulations. Thus, where non-compliance has been detected for an audit parameter it may be necessary for the private water supplier or the WSA to increase monitoring for that parameter in the affected water supply. The purpose of increasing the monitoring frequency is to assist the private water supplier to determine the cause of the problem (e.g. THM or nitrate non-compliance may only occur in certain raw water or seasonal conditions). Furthermore, in order to be able to track and confirm the effectiveness of the corrective actions taken, the private water supplier will need to carry out additional operational monitoring.

5.4.2 | As part of the action programme to be submitted to the WSA, the private water supplier should propose an increased monitoring programme which will be assessed by the WSA and amended if necessary. In general, in the case of microbiological non-compliances, [daily] [frequent] monitoring until the problem has been resolved would be appropriate while in most circumstances weekly [less frequent] monitoring

Issue No:	1
Date:	12 April 2010

of the chemical parameters would be considered appropriate. Consideration will also need to be given to the sampling locations which in many cases will need to include sampling of the raw water, the treated water leaving the treatment works and water from representative locations in the distribution network.

5.5 Short term interim measures

5.5.1 | In the case of a non-compliance with the parametric values in part 1 of the schedule to the Regulations, private water suppliers are required by regulation 10(7) to include interim measures in the action programme. In most cases it will not be acceptable to permit the non-compliance to continue for the duration of the implementation of the action programme, which could be up to one year where there is a risk to human health. Thus the private water supplier must include details of interim measures to ensure that in the short term the risk of non-compliance (and hence the risk to human health) is minimised. These measures may include:

- ◆ installation of temporary treatment;
- ◆ temporary use of an alternative water supply; and,
- ◆ placing of restrictions on the supply (both in terms of water conservation and restrictions/prohibitions on consumption) in consultation with the WSA (who would consult and agree any restrictions with the HSE).

5.5.2 | The private water supplier should state which of these measures are to be used as part of the action programme. If none are to be used, it will be necessary for the private water supplier to justify the reasons for non-inclusion of interim measures.

5.6 Action programme timescales

5.6.1 | The private water supplier should prepare a GANTT chart or equivalent timetable outlining when each of the actions proposed in the action programme are to commence and to be completed. The proposed completion dates should be clearly stated. The overall action programme must be completed as soon as possible. Where the non-compliance presents a risk to human health, the action programme must be completed no later than one year from the date of its approval by the WSA. Where there is not a risk to human health, it must be completed no later than two years from the date of its approval by the WSA. The WSA may require a shorter timeframe for the

Issue No:	1
Date:	12 April 2010

completion of actions proposed in the action programme and the decision to require a shorter timeframe will depend on the nature of the non-compliance, the speed with which it can realistically be resolved and the risk to human health caused by the non-compliance.

5.7 Informing consumers of the action programme

5.7.1 | Regulation 10(9) places an obligation on private water suppliers to ensure that consumers are informed of any remedial action to be taken to improve the water supply so as to ensure compliance with the standards and indicator parameter values in the Regulations. When informing consumers of the remedial action the private water supplier should provide the following information:

- ◆ a brief summary of the non-compliance and possible causes;
- ◆ details of actions consumers can take to reduce the likelihood of further non-compliances (e.g. flushing standing water to reduce lead concentrations);
- ◆ details of actions members of the public can take to reduce the likelihood of further non-compliances (e.g. prevention and reporting of pollution of the source);
- ◆ a brief summary of actions to be taken by the private water supplier;
- ◆ an indication as to when the supply is likely to be returned to compliance; and
- ◆ details of where consumers and members of the public can get access to the full action programme (including any amendments by the WSA).

5.7.2 | Private water suppliers must make all reasonable efforts to make sure all consumers are informed. Consumers should be informed, as a minimum, via an advertisement in the local press and/or public notice on the website of the private water supplier or notices in prominent locations or for small water supplies by letter/leaflet drop to each of the premises supplied. Regular updates on the situation should also be provided.

Issue No:	1
Date:	12 April 2010

6. Departures from the standards

6.1 | A departure from the parametric values specified in table B in part 1 of the schedule to the Regulations may, on application by a WSA and subject to agreement with the HSE, be granted by the EPA in relation to a private water supply¹, provided:

- ◆ no such departure constitutes a potential danger to human health; and
- ◆ that the supply of water intended for human consumption in the area concerned cannot otherwise be maintained by any other reasonable means.

Departures are not available for the microbiological parameters in table A or for the indicator parameters in table C of part 1 of the schedule to the Regulations.

6.2 | A departure is in effect permission to continue supplying water that does not comply with the standards whilst remedial action is taken provided there is not a potential danger to human health. The standards for many of the chemical parameters are based on life long consumption and have a wide margin of safety, so that relatively short term non-compliance up to a value that is not excessively higher than the standard is unlikely to be a potential danger to human health.

6.3 | Any departure granted by the EPA must be subject to a maximum value and for a period of not more than three years initially. The EPA must obtain agreement from the HSE that a water supply containing the maximum value for that parameter for that period does not constitute a potential danger to human health. The EPA also needs to be satisfied that the water supply to the supply zone affected cannot be maintained by any other reasonable means.

6.4 | An application by a WSA for a departure for a private water supply must include the information specified by the EPA. This information is set out in the form at Appendix 1.

6.5 | Any departure granted by the EPA must:

- ◆ be subject to any conditions specified by the EPA;

¹ This does not apply if the failure is due to the condition of the domestic distribution system (pipe work or fittings) in the premises concerned.

Issue No:	1
Date:	12 April 2010

- ◆ be for as short a period as possible and not exceed three years
- ◆ provided the non-compliance is not trivial, specify:
 - the grounds for the departure;
 - the parameter concerned, previous relevant monitoring results, and the maximum permissible value under the departure.
 - the geographical area, the quantity of water supplied each day, the population concerned and whether or not any relevant food-production undertaking would be affected.
 - an appropriate monitoring scheme, with an increased monitoring frequency where necessary.
 - a summary of the plan for the necessary remedial action, including a timetable for the work and an estimate of the cost and provisions for reviewing.
 - the required duration of the departure.
- ◆ be reviewed by the EPA prior to the end of the period of the departure to determine whether sufficient progress has been made.

6.6 | The EPA need only specify the maximum value for the parameter and the time allowed for remedying the problem when the following circumstances apply:

- ◆ the EPA considers the non-compliance with the parametric value to be trivial;
- ◆ the EPA considers that the action taken in accordance with regulation 10(4)(a) is sufficient to remedy the problem within 30 days; and
- ◆ the failure to comply with the parametric value in the supply has not occurred on more than 30 days on aggregate during the previous three months.

6.7 | A WSA granted a departure in respect of a private water supply, except for a departure covered by paragraph 6.6 above, must:

- ◆ inform the affected population of the departure and the associated conditions (see paragraph 5.7.2 above); and

Issue No:	1
Date:	12 April 2010

- ◆ give advice, where necessary, to particular population groups if the departure could present a special risk (an example of where such advice may be necessary is when a departure is granted for nitrate. Anyone bottle-feeding infants should be advised to use low nitrate bottled water for preparing infant feeds and not to use the tap water until the remedial action programme is complete).

6.8 | If the private water supplier cannot complete the remedial action within the specified time, the WSA may make an application to the EPA for a further departure for a period not exceeding three years. Such an application should be in the same form as specified above and must include a full explanation and justification for not meeting the timetable and for requiring a further departure.

Issue No:	1
Date:	12 April 2010

Appendix 1: Model form for application for a departure from the standards in table B of the schedule to the Regulations in respect of a private water supply in accordance with regulation 11

General	
Water Services Authority	
Address	
Telephone no.	
Fax no.	
E-mail address	
Contact person	
Private water supplier	
Address	
Telephone no.	
Fax no.	
E-mail address	
Contact person	
Details of the departure	
Name of water supply	
Grid reference of abstraction point	
Name of treatment works	
Name and code of supply zone	
Volume supplied	
Population served	
Treatment processes (identify any relevant to this application)	

Issue No:	1
Date:	12 April 2010

Details of the Departure	
Parameter(s) applied for (from table B of part 1 of schedule to the Regulations)	
Grounds for departure (Include past monitoring results, geological maps or other information in support of the application including justification that the supply of water cannot be maintained by any other reasonable means.	
Duration of departure (must not exceed 3 years)	
Details of other possible alternative sources of water for supply	
Assessment of the Impact of the Departure	
Indicate if any of the opposite use, or will use, water from the supply during departure period and give details	Hospitals/medical centres: Nursing/residential homes: Schools/colleges etc: Food production facilities: Other sensitive users (specify):

Issue No:	1
Date:	12 April 2010

Assessment of the Impact of the Departure	
Details of how the WSA intends to identify particular population groups for which the departure could present a particular risk and how the WSA intends to ensure that appropriate advice is given to such groups.	
Provide the advice from the HSE on whether the departure constitutes a potential danger to human health	
Monitoring	
Details of current compliance monitoring programme (number of samples and results for last 3 years for the parameter(s) above)	
Details of any increased monitoring programme (frequency of sampling for parameter(s) above)	
Remedial action plan proposed to achieve compliance	
Details of remedial action	
Timetable for this action	
Estimated cost of this action	
How the WSA will review progress with the plan to ensure completion by departure date	
State how the WSA will ensure that the population affected is informed of the departure and its conditions	

Issue No:	1
Date:	12 April 2010

Declaration	
<p>I hereby make an application for a departure from the parametric value(s) specified in table B of part 1 of the schedule of the European Communities (Drinking Water) (No.2) Regulations 2007 for the parameter(s) above.</p>	
<p>I certify that the information given in the application is truthful, accurate and complete.</p>	
Name	
Position	
Signature	
Date	

Issue No:	1
Date:	12 April 2010