

1 February 2013

Information Letter 01/2013

To: Board Level and Day to Day Contacts in Water Service Companies and Water Companies in England and Wales

Dear Sir/Madam

THE 2014 PERIODIC REVIEW OF PRICES – GUIDANCE ON DRINKING WATER QUALITY REQUIREMENTS

1. Purpose

1.1 The purpose of this Information Letter is to provide water companies and other stakeholders with guidance on the next Periodic Review of Prices (PR14) for those matters relating to drinking water quality. This letter and annexes describe the criteria and the information for drinking water quality submissions by water companies that require the support of the Drinking Water Inspectorate for inclusion in Business Plans. It also confirms the methodology that the Inspectorate will use for assessment of submissions and its timetable.

1.2 The contents of this Information Letter is as follows;

Section 2 – General approach to the drinking water quality programme for PR14

Section 3 – The Regulatory Framework for Drinking Water Quality

Section 4 – Drinking Water Quality Programme for PR14 – Principles

Section 5 – Provision of Information to DWI for business plan proposals

Annex A – Proposals to carry out improvements for drinking water quality reasons – submission of information (detail of information requirements)

Annex B – Drinking water requirements for PR14 – specific hazard/driver information

2. General approach to the drinking water quality programme for PR14

- 2.1 For PR14, water companies are expected to address all statutory drinking water quality requirements as set out in Defra's recently published [Statement of Obligations](#)¹. In particular, the Inspectorate will look to ensure that companies have paid due regard to the need for public water supplies to be safe, clean and compliant with all the regulatory standards, and that provision is made for a sustainable level of asset maintenance to maintain public confidence in drinking water quality.
- 2.2 Similar expectations apply to the Welsh Government's water policy statement, to be published in due course, for those water companies that are wholly or mainly in Wales.
- 2.3 Ofwat has stated that for the next price review it wants companies to focus on outcomes, instead of outputs. It expects companies to consult with their customers on priorities for investment and, in consultation with other stakeholders, develop outcomes that reflect customers' views. Ofwat has asked water companies to establish Customer Challenge Groups (CCGs), chaired by an independent person. The aim of these independent groups is to challenge water companies' business plan proposals; to ensure that water companies have effectively sought the views of customers and other stakeholders in the development of these business plan proposals and to challenge the phasing, scope and scale of work required to deliver the agreed outcomes, including statutory outcomes, contained in companies' business plans.
- 2.4 The DWI has a position on all of the water companies' CCGs in England and Wales and our representatives support the process by acting as an independent member of each group with the overall remit of ensuring that company business plan proposals reflect the views of consumers and place drinking water quality at the forefront of such plans. This aligns with our [strategic objectives](#)² that water suppliers deliver water that is safe and clean and that the public have confidence in their drinking water. Consumer research consistently shows that that water company customers value and prioritise a safe, reliable supply of water that meets all the standards.

3. The Regulatory Framework for Drinking Water Quality

- 3.1 Defra's Statement of Obligations describes the main statutory obligations that apply to water companies who are wholly or mainly in England over the price review period 2015-2020 on the water environment, including drinking water and water supply. The regulatory framework for drinking water quality set out in this section of the letter reflects the statutory

¹ <http://www.defra.gov.uk/publications/files/pb13829-statement-obligations.pdf>

² <http://dwi.defra.gov.uk/about/our-strategic-plan/Securing-safe-clean-drinking-water.pdf>

obligations for drinking water quality outlined in the Statement of Obligations.

- 3.2 The 1998 EU Drinking Water Directive (98/83/EC) is the primary European legislation that sets standards for drinking water quality.
- 3.3 The Directive was implemented by the Water Supply (Water Quality) Regulations 2000 (in England) and 2001 (in Wales). These Regulations, referred to in this letter as the Principal Regulations, contain all the standards of the Directive together with national standards for aesthetic, chemical and microbiological parameters.
- 3.4 All of the standards in the Principal Regulations came into force on 25th December 2003. The standard for lead of 10µg/l comes into force on 25th December 2013.
- 3.5 The Principal Regulations have been subject to a number of amendments. The Water Supply (Water Quality) Regulations 2000 (Amendment) Regulations 2007 (referred to in this letter as the 2007 Amendment Regulations) came into force in December 2007. The key purposes of these Regulations were the introduction of a risk assessment approach to management of drinking water supplies and the requirements for raw water monitoring at abstraction points by water companies to inform this approach.
- 3.6 The Water Supply (Water Quality) Regulations 2010 (Wales) came into force on 20th April 2010. These Regulations replaced all the previous drinking water quality Regulations applying in Wales, and are known as the Welsh Regulations.
- 3.7 The Water Supply Regulations 2010 came into force on 20th April 2010 (the 2010 Amendment Regulations). These Regulations introduced two additions to the Principal Regulations:
 - Regulation 19A (20 in the Welsh Regulations) confers additional powers on the Secretary of State to require companies to serve notices under Section 75 of the Water Industry Act 1991 where a failure of a parameter or presence of any other substance causing unwholesome water is attributable to the private domestic system in a building where water is supplied or made available to members of the public, and where the failure is non-trivial and likely to recur. Public buildings are defined in DWI Information Letter 10/2004 Monitoring drinking water at establishments where water is supplied to the public.
 - Regulation 26(1A) (27(2) in the Welsh Regulations) - the **disinfection byproduct rule** - requires companies to (a) “design, operate and maintain disinfection processes so as to keep disinfection byproducts as low as possible without compromising the effectiveness of the disinfection”; and (b) “to verify the effectiveness of the disinfection process”.

4. Drinking Water Quality Programme for PR14 – Principles

- 4.1 For every water treatment works and associated supply system i.e. from source to tap, companies must carry out risk assessments under the requirements of Regulation 27³ of the 2007 Amendment Regulations to establish whether there is a risk of supplying water that could constitute a potential danger to human health, and submit reports to the Inspectorate under Regulation 28³ of the 2007 Amendment Regulations identifying those risks.
- 4.2 Regulation 16A of the 2007 Amendment Regulations (17 in the Welsh Regulations) requires companies to undertake raw water monitoring at the point of abstraction for parameters necessary to inform the above mentioned risk assessments.
- 4.3 A company's Water Safety Plan (WSP) methodology and outputs of its raw water monitoring should inform the risk assessments of the company's supply systems. These risk assessments should identify all the hazards in the catchment, in treatment and in distribution systems that could potentially impact on a company's ability to adequately treat, disinfect and supply wholesome drinking water. Wholesomeness is defined in Regulation 4(2) of the Principal Regulations by reference to drinking water quality standards and any other substance or organism alone or in combination with another substance that would constitute a potential danger to human health.
- 4.4 Water companies should consider the short, medium and long term control mechanism(s) required to address each hazard and assess whether there is a need for additional control measures in the catchment, at abstraction points, at the treatment works or in the associated supply system to secure that drinking water is wholesome at the consumers' taps and risks to human health are appropriately mitigated. These measures may include investment in existing assets or other existing control measures in place, where these are deficient. It should be recognised that many risks may be under control already through operational and communications control measures and the case for investment may relate to improving the performance, reliability, resilience, and/or sustainability of such controls.
- 4.5 Companies should ensure that the requirements of regulations 19A and 26(1A) of the 2010 Amendment Regulations are incorporated into their risk assessments and WSP methodologies.
- 4.6 For PR14, water companies will need to consider whether improvements are required in the area of catchment controls, with treatment processes at water treatment works and in distribution systems, to ensure that the requirements set out in the Principal Regulations and amendments are

³ Regulations 28 and 29 in the Welsh Regulations

being achieved and will be maintained during the period from 1st April 2015 to 31st March 2020 and beyond.

- 4.7 Our approach provides flexibility for companies in the development of solutions to deliver required outcomes. Where legal instruments are put in place, steps in the legal instrument may include investigative or modelling actions to facilitate identification or confirmation of the optimum solution. The change application process that is already in place will continue to be applied during AMP6 for programmes of work approved at PR14. This process enables companies to propose alternative solutions where these have been identified and can be shown to deliver benefits over and above the original proposal, or because changed circumstances require an alternative solution. No alternative solutions will be permitted if they are not formally accepted by the Inspectorate prior to implementation through the change application process.
- 4.8 As is already the case, all legal instruments will continue to include a demonstration of benefits stage to provide evidence to the Inspectorate that the required outcome has been achieved following completion of the programme of work. This requirement is consistent with Ofwat's objective that companies focus on achievement of outcomes. Companies may wish to ensure that their procurement arrangements are consistent with this requirement.

5. Provision of information to DWI for business plan proposals

- 5.1 The outcomes of the risk assessments of water treatment works and associated supply systems referred to above will provide the supporting information for any drinking water quality proposals to achieve identified outcomes that water companies wish to include in their business plans at PR14.
- 5.2 As with previous periodic reviews, water companies seeking technical support from the Inspectorate will need to demonstrate the need for each proposal. The information requirements to support and justify preliminary submissions for individual proposals to the Inspectorate are provided in Annex A. More detailed information for water companies to consider on particular drinking water quality hazards and associated drivers is provided in Annex B.
- 5.3 The case for justification must be accompanied by the following information:
- how the company has derived the most appropriate technical and cost effective options to mitigate each named hazard and thereby achieve compliance with the regulatory requirements;
 - summary details of the capital costs and the net additional operating costs of each of the options considered;

- identification of the preferred option and the rationale for choosing that option and reasons for discounting all other possible options and
- evidence that the preferred option will adequately mitigate the risk and deliver the required outcome within an appropriate timescale

5.4 The Inspectorate will expect water companies to provide detailed supporting evidence that the preferred option will mitigate the risk of the hazard occurring; or, where the hazard already exists, reduce the risk to an acceptable level (i.e. compliance with any relevant standard or guideline value for unlisted parameters) within a prescribed timescale. The Inspectorate will not consider any submissions for individual schemes that are not accompanied by supporting evidence of the process employed by the water company to assess and determine the most appropriate technical and cost effective solutions, and specific supporting evidence of the appropriateness of the preferred option.

5.5 Companies' analyses should include an assessment of all relevant benefits including the benefits of provision for protection of public health, and maintenance of public confidence in drinking water supplies. These benefits should be assessed qualitatively, quantitatively and where possible, monetized, in order to demonstrate that the proposed solution is needed, has a clear driver, will deliver the required outcome within the prescribed timescale, is sustainable in the long-term and is cost-effective. We will seek confirmation from companies that proposals are consistent with their long-term strategies for delivering water supply outcomes, and that these outcomes are consistent with their customer and stakeholder research.

5.6 Information requirements for companies' drinking water quality proposals are provided in Annex A to this Information Letter. We will establish ongoing programmes of meetings with companies to discuss proposals where actions are necessary as a result of regulation 27 risk assessments and also to discuss companies' proposals for maintaining and operating their water supply assets to prevent future non-compliance. Companies should ensure that they review their compliance returns and commentaries in the Chief Inspector's annual reports to ensure that issues are addressed. The Inspectorate will make use of information available to it from compliance assessments, event assessments, consumer complaints and operational audits to be assured that companies are investing in areas where there are deficiencies in the management of drinking water quality.

5.7 Companies should submit formal proposals where necessary, which must include comprehensive supporting information as detailed in Annex A. The Inspectorate will formally confirm or decline to support the proposal in a Final Decision Letter that will be copied to the chair of the company's CCG. Submissions that are not accompanied with an up to date regulation 28 report and comprehensive supporting information as detailed in Annex A will be rejected. Submissions should be sent

electronically to the Inspectorate's Price Review mailbox:
dwipricereview@defra.gsi.gov.uk.

- 5.8 It will be indicated in Final Decision Letters sent to companies' board level contacts, copied to the day-to-day contact, whether or not a legal instrument will be put in place to implement a statutory programme of work.
- 5.9 We anticipate that some proposals, in particular catchment schemes, may be submitted which will deliver longer-term improvements to raw water quality which are not yet included in the EA's National Environment Programme (NEP), and the company is seeking regulatory support. In these cases the making of a legal instrument for drinking water quality is unlikely to be appropriate, but the proposal may be commended by the Inspectorate in the Final Decision Letter, which will also confirm that a legal instrument will not be put in place. Refer also to the section on raw water deterioration in Annex B, and to the Inspectorate's [PR14 guidance on catchment management schemes](#) published in January 2013.
- 5.10 The transposition of supported proposals into formal programmes of work will reflect the regulatory position as set out in the Principal Regulations and the relevant sections of the Water Industry Act 1991 (updated by the Water Act 2003). Where there is evidence of current or a likelihood of future failures of a standard for a parameter linked to a hazard identified through the risk assessments, the Inspectorate will put in place Notices confirming the statutory requirements. Section 19 undertakings may be used to secure compliance with certain national parameter standards or in certain situations where there may be a risk to compliance without a significant risk to public health (for example metaldehyde).
- 5.11 As previously mentioned, for PR14 Ofwat has asked companies to establish Customer Challenge Groups whose primary responsibility is to ensure that companies have adequately consulted customers and other stakeholders in developing their business plans; to be assured that statutory obligations are appropriately included in business plan proposals; and to challenge companies to deliver innovative, sustainable solutions at an affordable cost to customers. The Inspectorate is officially represented on these groups.
- 5.12 We will discuss with CCGs, as required, issues associated with drinking water quality proposals. Companies should also be able to demonstrate to the Inspectorate and CCGs that business plans include sufficient levels of base maintenance expenditure to operate and maintain existing assets to ensure that compliance with the Principal Regulations is maintained; that the quality of drinking water does not deteriorate and, where it is deficient, is improved. In accordance with the Statement of Obligations¹, companies are also required to consider more generic risks to resilience, for example power outages, flooding, drought, security of

supply for treatment chemicals, analytical capacity and system issues such as critical telemetry, SCADA and other IT systems.

6. DWI methodology and timetable

- 6.1 The Inspectorate's timetable for PR14 has been developed to assist companies that have told us that they are planning to prepare a draft business plan by the fourth quarter of 2013. We would encourage companies to submit business plan proposals for drinking water quality as early as possible.
- 6.2 We will accept submissions up to **31 July 2013**, with a view to Final Decision Letters being issued by **31 October 2013**. All submissions must be accompanied by an up-to-date regulation 28 risk assessment report. If the risk assessment report is a revised version with different risks to the version previously submitted, it would be helpful if these could be sent at least four weeks in advance of the PR14 submission, with changes clearly highlighted, to allow the Inspectorate time to review the revised risk assessment and to consider whether enforcement action may be appropriate.
- 6.3 We have set a target date of **30 June 2014** to have all necessary legal instruments in place to allow time, if required, for CCG consultation before Ofwat's final determinations at the end of 2014.
- 6.4 As mentioned above, Annex A attached to this letter sets out the information requirements for submissions for business plan proposals. The Inspectorate's final decisions will be based on information provided with scheme submissions and discussions with companies. If, when proposals are put before a company's CCG, information pertinent to a proposal is presented that the Inspectorate has not been made aware of beforehand, then the company will bear the risk that the Inspectorate's position in respect of the proposal may change.
- 6.5 Copies of final decision letters will be sent to Ofwat, CCWater, the Chair of the relevant Customer Challenge Group and, where appropriate the Environment Agency (EA) and Natural England (NE). For proposals submitted by Welsh Water and Dee Valley Water, letters will be copied to the Welsh Government, and, if appropriate, Natural Resources Wales (NRW - the Welsh Environmental Regulator).

7. Enquiries

Copies of this letter are being sent to Pamela Taylor, Chief Executive, Water UK; Gabrielle Edwards, Water Programme, Department for Environment, Food and Rural Affairs (Defra); Michael Rose, Head of CBRN Policy, Defra; Olwen Minney, Welsh Government; Susan Petch, Drinking Water Quality

Regulator for Scotland; Margaret Herron, Drinking Water Inspectorate for Northern Ireland; Steve Hobson, Consumer Council for Water; Ian Barker, Environment Agency; Noel Wheatley, Water Services Regulation Authority (Ofwat); Glen Cooper, Natural England

Enquiries about this letter should be addressed to Jacqueline Atkinson (0300 068 6402), email jacqueline.atkinson@defra.gsi.gov.uk. This letter is being sent electronically to Board Level and Day-to-Day contacts, and to PR14 contacts. Please acknowledge receipt by e-mail to DWI.enquiries@defra.gsi.gov.uk. Hard copies are not being sent. This letter may be freely copied.

Yours sincerely



Milo Purcell
Deputy Chief Inspector (Regulations)

Annexes:

Annex A – Proposals to carry out improvements for drinking water quality reasons – submission of information

Annex B – Drinking water requirements for PR14 – specific hazard/driver information

Annex A

Proposals to carry out improvements for drinking water quality reasons – submission of information

An up to date regulation 28 risk assessment report must be appended with all submissions.

This annex lists all of the information that companies should provide to the Inspectorate with PR14 proposals for drinking water quality. If the information is already included in the regulation 28 reports submitted with proposals, or in other documents appended to the submission, there is no need for companies to provide the information again separately.

Scheme details

Water Company:	
Name of supply system & Reg. 28 Report ref. number:	
Name of Water Treatment Works/Distribution System/Service Reservoir/Other asset	
Water quality hazard/drivers identified:	
Reference to outcome in company's long-term strategy	
Stage One – Details of water treatment works and associated supply system	
Provide supply arrangements and treatment works details:	
A description and diagram of the supply system related to the treatment works [In many cases, companies include this information, including schematic diagrams, in regulation 28 risk assessment reports, in which case it is acceptable to refer here to the report, which should be appended]	
Design capacity Ml/d	
Volume supplied: Daily average and daily maximum Ml/d [Please include a commentary if there are any constraints on deployable output due to limitations associated with any part of the treatment process]	
Sources of raw water, continuous, seasonal or standby [Include names of individual sources, nature of the source (e.g. surface direct abstraction; surface impounding reservoir; borehole; spring; type of aquifer)]	
Treatment processes currently employed (including pre-treatment of raw waters) [In this case, blending is defined as treatment. This includes blending of raw waters prior to treatment. Please also indicate if bankside storage of raw water is utilised, and average retention time in the reservoir]	
Service reservoirs/booster pump details	
Water supply zones supplied [If the supply is blended with waters from other treatment works in the zone, please indicate the relative proportions (as %)]	
Population of each water supply zone supplied	

Stage Two – Hazard identification and Risk Characterisation
Provide details of methodology used to identify hazard i.e. historic data, events/incidents including near miss situations, operator knowledge, modelling and site visits/technical audits
Summary of historical data on the values and concentrations of the organism, substance(s) or parameter(s) associated with the hazard in the raw water source and the water entering supply from the relevant treatment works from compliance, investigative, or operational sampling
Details of any existing contraventions of regulatory requirements and whether they are likely to recur (at WTW, SR and/or at consumers taps)
If evidence of likely to contravene any regulatory requirement, details of when this is likely to occur (at WTW, SR and/or at consumers taps) including trend analysis & prediction modelling
Details of any other data relevant to the hazard identified
If appropriate, summary of data/information on consumer complaints
Details of any events that have occurred in catchment, at treatment works and in supply that are associated with hazard identified
Details of any existing control measures that might influence the values and concentrations of the organism, substance(s) or parameter(s) associated with the hazard in catchment, treatment and in supply
Details of monitoring of the control measure (including validation monitoring)
Details of any changes in practices or policy which might have influenced the values and concentrations of the organism, substance(s) or parameter(s) associated with the hazard in water supplied to consumers, i.e. in relation to resources, blending arrangements, treatment or supply arrangements and the dates of those changes
Details of any licensed abstraction issues which might influence the values and concentrations of the organism, substance(s) or parameter(s) associated with the hazard in raw water
Reasons for the presence of the hazard, if known, otherwise details of what is being done to identify source of hazard
Outline Risk characterisation i.e.
Details and score arising from consequence v likelihood matrix,
Where score sits in risk profile for supply system
Stage 3 – Control Measures Required
Provide details of short, medium and long terms control measures i.e.
Details of short term actions currently in place to mitigate against risk & their effect
Details of mid to long term control measures identified for any residual risk:
(i) Options the company has considered which should, where appropriate, include catchment management controls; or communications controls in association with other stakeholders
(ii) Timescale for delivery of each option
(iii) Capital costs and net additional operating costs of each option considered
(iv) Summary of costs and benefits of each option
(v) Reasons for choosing the preferred option
(vi) Specific supporting evidence that the preferred option will address risk of hazard within the required timescale
Full details of how the company intends to assess and measure the benefits delivered (the outcome), including details of proposed sampling programme, number of samples to be taken over the specified period and parameters to be monitored.

ANNEX B

Drinking Water Quality Requirements for PR14 – Specific hazards and associated drivers

1. Current Statutory Drivers

Raw Water Deterioration

Failure or a likelihood of failure to supply wholesome water because of a deterioration in raw water quality (such as nitrate, pesticides, turbidity, THMs (link to colour), *Cryptosporidium* and other pathogens) should be identified through raw water monitoring and the risk assessments carried out for each treatment works and its associated supply system. Deterioration in this context means a measured change in raw water quality over time. It does not mean evidence of poor performance of a treatment works.

The Inspectorate anticipates that most hazards will be known about already but some proposals to mitigate the likelihood of failure of standards are to be expected for PR14. Where a deterioration in raw water quality has been identified and presents a risk to consumers (for example the existing treatment process is not designed to deal with either the type or level of the contaminant), water companies must investigate the cause of deterioration and take action to protect consumers. This action should include investigations in the catchment and, where feasible, implementation of actions to reduce the level of pollution entering the source. [Refer also to DWI PR14 Guidance on Catchment Management Schemes, issued January 2013].

The Water Framework Directive (WFD) contains specific obligations within Article 7.2 for the Environment Agency (EA) to designate areas for the abstraction of water intended for human consumption. Under Article 7, in designated drinking water protected areas, it is the EA as the competent authority that should ensure that there is no deterioration of raw water quality. The 2007 Amendment Regulations places duties on water companies to undertake monitoring of raw water at every abstraction point and carry out a risk assessment of each treatment works and associated supply system. These activities by water companies will contribute to the WFD objectives in respect of the protection of areas from which drinking water is abstracted.

Companies should consider long term catchment management/control solutions in the context of the WFD as a primary solution to address hazards arising from raw water deterioration. However, the capacity of a company to adopt this approach will depend on the level of risk and whether a catchment solution could deliver in time to prevent the supply of unwholesome water. In some situations, an end-of-pipe solution may need to be installed as a medium term control measure. If there is an identified risk to wholesomeness that is likely to materialise before 31st March 2020, it is anticipated that in these situations companies will be required to adopt a twin track approach that includes treatment or other operational control measures in addition to catchment management actions to mitigate raw water deterioration.

The Environment Agency must be consulted on all schemes required as a result of deterioration of water quality. We expect water companies to work closely with the regulators DWI, EA and Natural England, and Natural Resources Wales for programmes of work in Wales, to develop the most sustainable long term solution to protect consumers.

Metaldehyde and other pesticide parameters

To be covered in separate guidance

Cryptosporidium

For PR14, the Inspectorate does not anticipate a large number of scheme proposals for *Cryptosporidium*.

Treatment (Regulation 26)

At PR09 companies should have included this requirement in their regulatory risk assessments and we do not expect companies to be submitting proposals for new schemes to address compliance with Regulation 26 at PR14, since existing processes should, by now, be fully compliant.

Disinfection Byproducts (Regulation 26(1A) – The disinfection byproduct rule)

Refer to [DWI PR14 Guidance – Disinfection Byproducts](#) issued in November 2012.

Lead

Refer to [DWI PR14 Guidance – Lead in Drinking Water](#) issued in November 2012.

Acceptability of drinking water quality to consumers

For PR14, the Inspectorate does not anticipate a large number of scheme proposals for acceptability issues caused by discolouration due to disturbance of mains deposits, or taste and odour, because of the level of investment seen in previous AMPs. By now we expect companies to be maintaining improvements delivered in previous years through base maintenance and operating expenditure (see Section 2 below – **Operation and Maintenance**).

Where there is failure or a likelihood of failure to meet standards relating to consumers' acceptability (iron, manganese, colour, turbidity, taste & odour) that is not due to the domestic distribution system within buildings, water companies will need to provide further information. This evidence on the extent of non-compliance should be in the form of results of testing against these standards together with data on consumer dissatisfaction (levels of consumer contacts per 1000 population in the water supply zone) and the measurable outputs to demonstrate improvements. Whilst the measurable outputs should focus primarily on numbers of consumer contacts and compliance with water quality standards, it may be necessary to establish additional secondary measures for delivery purposes, e.g. absolute values of, and variability in, residual chlorine concentrations for taste and odour. Companies must provide evidence that assets included in a programme of work have not benefitted from capital investment during previous AMPs.

Other substances and organisms

Water companies should also consider the risk associated with the concentrations of any substance (including combinational effect and precursors for the formation of a parameter or substance of human health concern) which may be present in the raw water in sufficient quantities to pose a risk of supplying water that is not wholesome in the future. Likewise water companies must assess the risk posed by the degree of pathogen contamination of the raw water in relation to the treatment in place to prepare the water for disinfection. The disinfection process and its controls must be

robust enough to inactivate or remove all pathogenic organisms, including viruses, parasites, bacteria and toxic algae before water is supplied. Proposals will be considered on a case by case basis but must be supported by evidence that the water company has identified the hazard through the risk assessments and raw water monitoring required by the Regulations.

New and Emerging issues

The Inspectorate is aware of a few instances where there may be new and emerging hazards relating to substances for which there are currently no numerical standards in the 1998 Drinking Water Directive. The Principal Regulations require that water must not contain any substance at a level which would constitute a potential danger to human health. The Inspectorate does not anticipate that there will be any proposals at PR14 to address the risk of these substances occurring in drinking water for which there is no reliable control mechanism in place; however, due consideration will be given to proposals put forward for investment in control strategies to mitigate such risks.

2. Operation and Maintenance

The Inspectorate expects companies to have a sustainable and integrated asset management strategy for all water supply assets that is designed to minimise the risk to consumers by prevention of water quality events and non-compliance with the standards. This reflects the general duties of water companies to maintain an efficient and economical system of water supply and is in line with Ofwat's guidance for business planning in relation to the maintenance of serviceability. As a consequence of the Amendment Regulations 2007, risk-based asset maintenance strategies are now regarded by the Inspectorate as an integral part of companies' risk assessment and risk management approaches using water safety plan methodology.

Asset maintenance strategies that prevent problems with drinking water quality should be applied to all water supply and distribution assets, in particular treatment works and service reservoirs. If water companies do not have an adequate asset management strategy, then there will be a risk of future non-compliance with the statutory water quality standards and a greater likelihood of a deterioration in the aesthetic quality of drinking water as measured by consumer contacts reporting discolouration or an objectionable taste or odour.

Water asset management strategies must be informed by a comprehensive review of information about recent water quality incidents, breaches of standards and the number of consumer complaints because these data may be the only reliable evidence that points to systemic and persistent underperformance of existing assets.

3. Potential future statutory requirements and whether provision should be made in PR14

The Euratom Directive

To be covered in separate guidance, if necessary.

Revision of Annexes II and III of the Drinking Water Directive

As part of the cycle of regular review of European Directives, the European Commission stated in February 2011 that there would be no overall revision to the Drinking Water Directive (98/83/EC). There is, however a proposal to revise two of the annexes of the Directive, namely Annex II (monitoring) and Annex III (analytical specifications). Working groups have been established to agree these revisions.

We do not anticipate that the proposed revisions will lead to any significant net increase in costs for water companies that will qualify for specific business plan proposals at PR14. We will issue further guidance as and when the revisions to the Annexes are published in the European Journal.

4. Other influences on the drinking water quality programme

Water Resource Planning, Drought Planning and the introduction of new or previously abandoned water sources.

Regulation 15 requires water companies to monitor any new source of raw water before they bring it into use. The DWI has recently issued guidance to companies on regulation 15 in Information Letter 06/2012 – Regulation 15 Compliance Arrangements.

The Inspectorate does not anticipate that Regulation 15 will give rise to any new drinking water quality issues, other than those already detailed in connection with risk assessments generally. As a general principle, it is expected that all current and future drinking water quality requirements will be taken account of in full by companies during any feasibility study and no unsuitable sources will be developed further.

Climate Change and Carbon Emissions

In accordance with the ministerial guidance on climate change in the Statement of Obligations¹, companies should, when developing solutions, consider carbon footprint, energy consumption and resilience to climate change.

The Water Framework Directive

The Environment Agency is the competent authority for implementation of the requirements of the Water Framework Directive. The requirements for water companies are set out in Section 2.3 of the Statement of Obligations¹.

The DWI has published a [joint statement](#)⁴ with the Environment Agency and Natural England that sets out each of the industry's principal quality regulators' main requirements for catchment-based approaches that deliver outcomes for drinking water protected areas and drinking water quality.

The DWI's specific requirements for catchment management schemes are set out in our catchment management guidance note published on our website in January 2013.

⁴ A Catchment Approach for PR14 – A Joint Statement from the Drinking Water Inspectorate, Environment Agency and Natural England.