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Consultation
on the Amendment of
the Water Supply (Water Quality) Regulations 2000
and
the Water Supply (Water Quality) Regulations 2001

December 2006



Llywodraeth Cynulliad Cymru
Welsh Assembly Government



Department for Environment
Food and Rural Affairs

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1 Introduction

1.1 This is a joint consultation by the Department for Environment, Food and Rural Affairs (Defra) and the Welsh Assembly Government. The Water Supply (Water Quality) Regulations 2000 (SI 2000/3184) implement the requirements of European Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption (the Drinking Water Directive) in England.¹ The Water Supply (Water Quality) Regulations 2001 (SI 2001/3911(W 323)) implement the requirements of the Directive in Wales² in relation to the same supplies. In this document these two sets of Regulations will be referred to jointly as the “2000/1 Regulations”. The 2000/1 Regulations also implement the water treatment requirements of the European Directive 75/440/EC on the quality required of surface water intended for the abstraction of drinking water (SWAD) and lay down other national requirements in respect of standards, treatment, monitoring and reporting requirements.

1.2 The original consultation document on the Water Supply (Water Quality) Regulations 2000 is available for information on the Defra website: (www.defra.gov.uk/environment/consult/watersup/index.htm) together with the Government's response to the consultation: (www.defra.gov.uk/environment/consult/watersup/response/regulations/03.htm).

1.3 The Water Supply (Water Quality) Regulations 2000 were amended subsequently by the Water Supply (Water Quality) (Amendment) Regulations 2001 (SI 2001/2885). The purpose of these short amending Regulations was mainly administrative and corrected some errors in the original document. The full text of the 2000 Regulations and the 2001 amending Regulations is available on the Drinking Water Inspectorate's (DWI) website (www.dwi.gov.uk). Further consequential amendments were made in relation to health bodies following the National Health Service Reform and Health Care Professions Act 2002 (SI 2002/2469) and in relation to water supply licensees following the Water Act 2003 (SI 2005/2035). In this consultation document, “water companies” means water undertakers and the appropriate water supply licensees.³

1.4 Following a separate consultation exercise, the National Assembly for Wales made the Water Supply (Water Quality) Regulations 2001. They are similar to the amended Regulations made in England and are also available on the DWI website (www.dwi.gov.uk). The Water Supply (Water Quality) Regulations 2001 have only been amended in relation to water supply licensees following the Water Act 2003 (SI 2002/2035).

1.5 In May 2005, DWI issued its Guidance on application of the 2000/1 Regulations (DWI's Guidance) which is also available on the DWI website.

1.6 For brevity, the information contained on the web links given above will not be repeated in this consultation.

¹ The 2000 Regulations currently apply to: (a) the supply of water using the supply system of any water undertaker whose area is not wholly or mainly in Wales (Parts I to VIII, X and XI); and (b) in relation to the supply of water using the supply system of any water undertaker (i) whose area is situated wholly in England; or (ii) whose area is situated partly in England and partly in Wales, as regards the part of the supply system situated in England (Part IX).

² The 2001 Regulations currently apply to: (a) the supply of water using the supply system of any water undertaker whose area is wholly or mainly in Wales (Parts I to VIII, X and XI); and (b) in relation to the supply of water using the supply system of any water undertaker (i) whose area is situated wholly in Wales; or (ii) whose area is situated partly in England and partly in Wales, as regards the part of the supply system situated in Wales (Part IX).

³ Not all provisions in the 2000/1 Regulations in relation to water supply licensees apply to retail licensees.

1.7 Subject to the consultation it is the intention that the 2000/1 Regulations should be amended in 2007.

1.8 The Drinking Water Directive remains in force and has not been amended. However, Defra and Welsh Assembly Government have identified some areas where the 2000/1 Regulations require further amendment and at the same time have carried out an additional review to consider the possibility of reducing the regulatory administrative burden on the water industry whilst maintaining a tough but fair regulatory regime. The main driving factors behind the current review of the 2000/1 Regulations are as follows.

- (a) SWAD is repealed on 22 December 2007 and replaced by the drinking water protected area provisions in Article 8 of European Directive 2000/60/EC establishing a framework for Community action in the field of water policy (the Water Framework Directive). The proposed amendments are designed to ensure that after 22 December 2007 the water treatment and risk assessment requirements of the 2000/1 Regulations continue to provide an effective level of health protection for consumers of public water supplies.

Monitoring and risk assessment is carried out by water companies within a framework of self regulation. The independent Drinking Water Inspectorate (DWI) checks that water company procedures and reporting arrangements are robust and fully comply with the drinking water requirements. The DWI has the power to take enforcement action to address any deficiencies in water company arrangements and to secure improvements in drinking water quality where required. Currently, the 2000/1 Regulations place an emphasis on monitoring and reporting of water quality on treated water i.e. at the consumer's tap or at authorised supply points. There are a few exceptions:

- There is a requirement on water companies in Regulation 15 to monitor any new source of raw water before they bring it into use to confirm its quality.
- Regulation 26 places a duty on water companies to ensure that all water is disinfected before supply, and that all surface water is adequately treated in accordance with the requirements of SWAD. This requires the classification of surface water sources from samples results (mainly microbiological) and depending on which category it falls within, a minimum level of treatment must be put in place.
- Some raw water monitoring information is a necessary part of conducting risk assessments for the pathogen *Cryptosporidium* as part of the requirements of Regulation 27.

In addition to all of the above, water companies carry out voluntary or 'operational' monitoring of raw water (both ground and surface waters).

- This is recommended as best practice within industry-accepted documents such as 'Principles of Water Supply Hygiene and technical guidance notes'; June 1996, WaterUK and 'Operational Guidelines for the Protection of Drinking Water Supplies: Safeguards in the Operation and Management of Public Water Supplies in England and Wales'.
- Water companies require information on the quality of their raw water. Some of this monitoring is for indicator or microbiological parameters, the level of which will vary on a day to day basis depending on local conditions. Since 1990 a large number of water treatment works have had new or enhanced treatment processes installed to address specific water quality issues such as nitrates, pesticides, or manganese in the raw water. These processes require operational adjustment according to the concentration of the relevant parameters in the raw water. Regular information is therefore required for operational day to day water supply and treatment management to ensure that the drinking water is wholesome and safe at the point of consumption. DWI have reviewed this data on occasion, during the investigation of incidents, and during water treatment works audits.

- Where water companies have reason to suspect a deterioration in source water quality (through non statutory risk assessments of the catchment), they are required already to carry out additional monitoring to provide information on concentrations and adverse trends e.g. nitrate levels in ground water. Section 68(1)(b) and (1A)(b) of the Water Industry Act 1991 (the Act) places a general duty on water companies to ensure no deterioration in the quality of water supplied. Defra and the Environment Agency (EA) have evidence that over the last few decades there is a deteriorating trend in groundwater quality in some aquifers and this is having a major impact on water supply management and investment by the industry. Where this has occurred, companies have obtained DWI support for inclusion in their business plans of appropriate improvement programmes at the last periodic review of water prices that covered 2005-2010 (PR04).
- (b) The World Health Organisation (WHO) in its Guidelines for Drinking-water Quality 2004 recommends that the most effective means of consistently ensuring the safety of a drinking water supply is through the use of a comprehensive risk assessment and risk management approach that encompasses all steps in the water supply chain from catchment to consumers' taps. This risk based water safety plan approach is advocated by the DWI for public water supplies in England and Wales and some companies are already fairly advanced in their development of water safety plans. The proposed amendments are consistent with, and take forward, the water safety plan approach by widening the scope of the existing requirement for risk assessment (for *Cryptosporidium*) to cover all forms of risks to human health. The proposed amendments also formalise the raw water monitoring requirements which underpin a successful risk based approach to drinking water regulation and management.
- (c) Defra and the Welsh Assembly Government wish to implement in the most cost effective way the raw water monitoring requirements of the Water Framework Directive in respect of water sources used for the abstraction of drinking water in England and Wales. Article 7 of the Water Framework Directive places a requirement on the UK to protect water bodies with the aim of avoiding deterioration in their quality in order to reduce the level of purification treatment required in the production of drinking water. Improvements to raw water monitoring will facilitate the identification by companies and the EA of trends in raw water quality in a timely manner potentially enabling solutions, other than treatment, to be identified and implemented within the catchment (the prevention rather than cure approach envisaged in the Water Framework Directive and by WHO).

The EA is responsible for protection of the environmental quality of surface and ground waters in England & Wales and for implementation of much of the Water Framework Directive, including establishing a comprehensive monitoring programme for that Directive. A study in 2003 by the EA in collaboration with United Kingdom Water Industry Research Ltd showed that the raw water monitoring practices of the water companies are not well documented but are likely to be variable (UKWIR Report Ref. No. 02/WR/09/3). The EA currently relies on water company abstraction point data for up to 50% of its groundwater monitoring programme for reasons of cost effectiveness. Defra collaboration with the EA in preparation for implementation of the Water Framework Directive has identified that the most cost effective method of implementing the Article 7 monitoring requirements would be via water companies' raw water monitoring plans. The DWI was a party to these discussions and identified that through the formalisation and extension of the risk assessment approach within the 2000/1 Regulations, the monitoring requirements of Article 7 of the WFD could also be delivered in a cost effective manner.

- (d) Defra is fully committed to regulating better and has a target of a 30% reduction in administrative burdens. The implementation of a more risk based approach to regulation but

with tougher penalties combined with improved effectiveness via focus on outcomes and simplification where possible is fully in line with this.⁴

1.9 The purpose of this consultation paper is to set out the Defra and Welsh Assembly Government draft proposals for amendments to the 2000/1 Regulations and to encourage the water industry and all other interested organisations to comment on the proposals and the specific issues raised. These comments will help to inform the decisions of Defra and Welsh Assembly Government on the final amendments to the Regulations. The amending Regulations will then be put to the National Assembly for Wales⁵ and the Secretary of State for approval. Some of the proposals for the amending Regulations are the result of an on-going dialogue between DWI, the water industry and WaterUK. DWI informally presented the main proposals for consultation to representatives of the water industry, the Chartered Institute of Environmental Health, the Health Protection Agency and the Consumer Council for Water at the launch of the Chief Inspector's Annual Report 2005 in London on 28 June 2006 and in Cardiff on 6 July 2006. Feedback from these meetings has already informed the preparation of this consultation.

⁴ 'Lifting the burden'; Defra Initial Regulatory Simplification Plan, November 2005.

⁵ The draft Regulations which accompany this consultation document refer throughout to the National Assembly for Wales. In consequence, this consultation paper also refers to the National Assembly for Wales. On the coming into force of the Government of Wales Act 2006, the functions of the National Assembly for Wales which currently enable it to make the proposed Regulations will be transferred to the Welsh Ministers: see paragraph 30 of Schedule 11 to the Government of Wales Act 2006 (c.32). The proposed Regulations are likely to be made after these powers have been transferred: if this is the case, they will be made by the Welsh Ministers, rather than by the National Assembly for Wales, and the functions which are conferred upon the National Assembly for Wales in these draft Regulations will be conferred, instead, on the Welsh Ministers. For the definition of "Welsh Ministers", see section 45(2) of the Government of Wales Act 2006.

2 Summary of Consultation Points

In this section, references are to provisions of the 2000/1 Regulations.

Consultation Point 1

Do you agree with the additions and amendments to the application provisions and definitions in the amended Regulations 1 and 2? Do you agree that notifications under the 2000/1 Regulations should be:

- (a) where relevant, to local authorities on both sides of the border between England and Wales, and
- (b) to the Health Protection Agency for notifications relating to England and to the National Public Health Service for Wales for notifications relating to Wales rather than other health bodies?

Consultation Point 2

Do you agree that the definition of wholesomeness in the amended Regulation 4 should be extended to include:

- (a) water supplied in bottles or containers by water undertakers or licensed water suppliers in place of a piped supply, and
- (b) that such supplies should be subject to similar monitoring requirements as water supplied by tanker in place of a piped supply as set out in the amended Regulation 6, and
- (c) that to achieve a broad equivalence with monitoring of tankers the unit for monitoring to be set out in guidance by DWI should be each uniquely identified batch of bottles?

Consultation Point 3

Do you agree that:

- (a) Regulation 8 should be amended to limit the use of supply points without prior authorisation by the Secretary of State or the National Assembly for Wales in certain circumstances, and
- (b) the addition to Regulation 3 is useful clarification regarding the future delineation of water supply zone boundaries in this context?

Consultation Point 4

Do you agree that Regulation 15 should be strengthened so that water undertakers and combined licensees cannot supply water from a new source unless they have received a notice from the Secretary of State or the National Assembly for Wales and until 3 months after they have supplied a copy of the risk assessment to them under Regulation 28? This brings the situation for water undertakers into line with that of combined licensees pursuant to condition 13 (prohibition on introduction - combined licensees) of the Standard Conditions of Water Supply Licences.

Consultation Point 5

Do you agree that the requirement for a raw water monitoring programme as proposed in Regulation 16A:

- (a) is protective of public health by ensuring that adequate information is available for risk assessment, water treatment design and operation, and
- (b) will at the same time adequately implement the monitoring requirements of Articles 7 and 8 and Annex V of the Water Framework Directive for water bodies used for the abstraction of drinking water?

Consultation Point 6

Do you agree with the proposed Regulation 23 which will require water undertakers to place the details of authorisations, free of charge, on the homepages of their websites in place of publishing these details in advertisements in all the relevant newspapers? Can you suggest any alternative means of bringing authorisations to the attention of those who may be affected, excluding advertising in newspapers?

Consultation Point 7

Do you agree new Regulation 26A as amended will provide an adequate level of ongoing public health protection when the water treatment and disinfection arrangements as derived from SWAD cease to apply in December 2007?

Consultation Point 8

Do you agree that the risk assessment required in Regulations 27 and 28 which currently address only *Cryptosporidium* should be widened in scope, in line with World Health Organisation Guidelines for Drinking-water Quality 2004, to cover all forms of risk to human health?

Consultation Point 9

Do you agree that together, the proposed amendments to Regulations 27 and 28, and the new Regulations 16A and 26A are sufficiently robust to enable the revocation of the existing Regulations 26 to 29, which contain existing requirements as to treatment and the provisions for risk assessment, taking action and forensic monitoring for *Cryptosporidium* at those treatment works judged by the water undertaker or combined licensee to be "at significant risk"? Do you agree that this does not represent a reduction in the level of public health protection already afforded against *Cryptosporidium*? Do you agree that it will encourage innovation by the water industry, and in particular, will facilitate the use of inactivation, as well as removal technologies?

Consultation Point 10

Do you agree that Regulation 31 should include the power for the Secretary of State and National Assembly for Wales, under certain circumstances, to require the person making an application for the approval of a substance or product to pay a charge? The charge would reflect the administrative expenses incurred by the Secretary of State in connection with obtaining independent expert advice on public health implications of the application.

Consultation Point 11

Do you agree with the revision of the sanctions in Regulation 33 so they no longer bear on the specific tasks relating to the carrying out of *Cryptosporidium* monitoring and treatment but are directed to the more general public health protection requirements of adequately treating and disinfecting water before it is supplied and complying with statutory enforcement notices in relation to a failure of treatment in relation to any danger to human health?

Consultation point 12

Do you agree that Regulation 35 should be amended so that water undertakers are no longer required to maintain a record available for inspection by the public at all reasonable hours and free of charge at their offices, if this requirement was replaced by one of providing information on request within seven days and free of charge? Do you consider that it would be better to rely exclusively on the Environmental Information Regulations 2004?

Consultation Point 13

Currently the reports produced by water companies under Regulation 36 largely duplicate the annual reports of independently checked test results provided to local authorities by the Drinking Water Inspectorate. Do you agree that Regulation 36 should therefore be revoked with the result that water undertakers will no longer be required to produce an annual drinking water quality report for local authorities?

Consultation Point 14

Do you agree that the National requirement in Schedule 1 Table B Part II for prescribed values for the hydrogen ion parameter are no longer necessary and the indicator parameter status and specification provide sufficient safeguards and control for this parameter? Do you agree with the changes to pH values? Do you agree that the taste and odour standard should be the same as that in the Drinking Water Directive? Do you agree that *Clostridium perfringens* (including spores) should be added to the monitoring provisions in Schedule 3, Tables 2 and 3?

3 Description of the Proposed Regulations and Issues for Consultation

This section describes the proposed changes to the 2000/1 Regulations and the points for consultation. It should be read in conjunction with the draft amending Regulations set out in [Annexes C and D](#). In this section, references in the main text are to provisions of the 2000/1 Regulations. Footnotes indicate the corresponding provision in the proposed amending Regulations to be made separately by the Secretary of State and the National Assembly for Wales. Where the numbering is the same in both sets of draft amending Regulations, only one reference is given in the footnotes.

Part I – General

Citation, commencement and application

Regulation 1

Most of the new provisions would come into force 21 days after they are made by both the Secretary of State and the National Assembly for Wales. It is hoped that this will be in the first half of 2007.⁶

However, it is proposed that Regulation 26 would only be revoked on 22 December 2007. This date derives from the repeal of SWAD under Article 22.1 of the Water Framework Directive. In our view, the policy overlap between existing Regulation 26 and proposed Regulation 26A means that there will be no additional cost to having both of these provisions in place for the second half of 2007. This ensures compliance with EC law and provides a transition to the new arrangements.⁷

We propose to make changes to Regulation 1 to clarify how the 2000/1 Regulations apply in respect of water supplied by water undertakers and water supply licensees using bowsers and in bottles and which are therefore not made using a piped supply system. All supplies made by undertakers whose area is wholly or mainly in Wales are covered by the Water Supply (Water Quality) Regulations 2001 as are supplies made by water supply licensees using such supply systems. All other supplies in England and Wales are covered by the Water Supply (Water Quality) Regulations 2000. However, as the substantive provisions are the same on both sides of the border and the DWI is the enforcement authority for the whole of England and Wales, these changes should make no substantive impact on water companies.⁸

Interpretation

Regulation 2

It is proposed to make changes to some of the existing definitions in Regulation 2 and new definitions are added as follows:

- (a) The definition of “appropriate local authority” should be clarified so that it also applies to paragraph 6 of Regulation 35 (provision of information following a water quality incident).⁹ Together with minor changes to Regulations 24 and 35,¹⁰ notification requirements apply to “every local authority” affected by a particular authorised departure or water quality incident. This makes it clearer that local authorities whose area falls only partly in the area affected by a particular authorised departure fall in scope.

⁶ See draft Regulation 1(2) in Annexes C and D.

⁷ See draft Regulation 1(3) in Annexes C and D.

⁸ See draft Regulation 2(2) in Annexes C and D.

⁹ See draft Regulation 2(3)(a)(i) in Annexes C and D.

¹⁰ See draft Regulation 2(15) and (23) in Annex C and draft Regulation 2(14) and (22) in Annex D.

- (b) The definition of “appropriate health authority” should be changed to bring it up to date as a consequence of the reorganisation of the health service. The Health Protection Agency was created in 2004.¹¹ The equivalent functions are carried out in Wales by the National Public Health Service for Wales. Together with amendments to Regulations 20, 24 and 35,¹² DWI’s Guidance will make it clear that those to be notified of authorised departures or water quality incidents are every Consultant in Communicable Disease Control and/or Public Health Director employed by the Health Protection Agency or National Public Health Service for Wales to give public health protection advice in part of or all of the area affected by a particular authorised departure or water quality incident. The definitions of “Primary Care Trust” and “Strategic Health Authority” are revoked because they are no longer relevant. Similarly the definition of “health authority” is revoked from the 2001 Regulations.
- (c) It is proposed to provide a definition for “relevant water body”.¹³ This term derives from water bodies identified by the EA as drinking water protected areas under the Water Framework Directive. However, this is limited to those sources providing 100m³ per day on average because the additional monitoring requirements for drinking water protected areas are limited to this in the paragraph 1.3.5 of Annex V of the Water Framework Directive for surface waters. We have taken the view that a similar limitation applies for additional monitoring in groundwaters. Also added are various other Water Framework Directive definitions to ensure consistency of interpretation.¹⁴ These are set out in Annex B to this consultation paper. The intention of these additions is to support the consistent interpretation of raw water monitoring requirements in England and Wales by water companies and the EA under both the 2000/1 Regulations and the Water Framework Directive. The existing definition of groundwater is to be revoked.
- (d) The definition of sampling point should be amended so that it applies when a supply of water is provided by means of bottles and containers as an alternative to piped water supplies in an emergency.¹⁵
- (e) We propose to simplify the definition of disinfection and bring it into line with current scientific understanding so it can be more readily applied by the water engineers responsible for the design and operation of water treatment works.¹⁶ A consequential amendment would also be made in the definition of wholesomeness in Regulation 4(2)(a)(i).¹⁷
- (f) We propose inserting a definition of a “civil emergency” based closely on section 208 of the Act.¹⁸ This applies in new provisions in Regulations 15 and 26A.¹⁹

Consultation Point 1

Do you agree with the additions and amendments to the application provisions and definitions in the amended Regulations 1 and 2? Do you agree that notifications under the 2000/1 Regulations should be:

(a) where relevant, to local authorities on both sides of the border between England and Wales, and

¹¹ See draft Regulation 2(3)(a)(iv) in Annex C and draft Regulation 2(3)(a)(iii) in Annex D.

¹² See draft Regulation 2(13), (15) and (23) in Annex C and draft Regulation 2(13), (14) and (22) in Annex D.

¹³ See draft Regulation 2(3)(a)(iv) in Annex C and draft Regulation 2(3)(a)(iii) in Annex D.

¹⁴ See draft Regulation 2(3)(a)(iv) and (3)(b) in Annex C and draft Regulation 2(3)(a)(iii) and (3)(b) in Annex D.

¹⁵ See draft Regulation 2(3)(a)(v) in Annexes C and D.

¹⁶ See draft Regulation 2(3)(a)(ii) in Annexes C and D.

¹⁷ See draft Regulation 2(5)(a) in Annexes C and D.

¹⁸ See draft Regulation 2(3)(a)(iii) in Annex C and draft Regulation 2(3)(a)(iv) in Annex D.

¹⁹ See draft Regulation 2(10) and (17) in Annex C and draft Regulation 2(10) and (16) in Annex D.

(b) to the Health Protection Agency for notifications relating to England and to the National Public Health Service for Wales for notifications relating to Wales rather than other health bodies?

**Part II
Water Supply Zones
Regulation 3**

We propose to make an addition to Regulation 3 to make it clear that whilst a water supply zone may derive its water from more than one source, an important factor in the decision as to its geographical boundary is knowledge of the quality of water within the whole zone and evidence that this is approximately uniform.²⁰ This requirement derives from the Drinking Water Directive²¹ and reflects existing practice in the designation of water supply zones by water undertakers in accordance with DWI's Guidance.²² Its inclusion in the 2000/1 Regulations should be considered in relation to those matters raised in connection with the proposed change to Regulation 8 set out below.

**Part III
Wholesomeness
Regulation 4**

We propose to widen Regulation 4 so that it covers samples taken from batches of bottles and containers provided by water undertakers and licensed water suppliers on a temporary basis in place of a supply by means of pipes.²³ This aligns the 2000/01 Regulations with current water industry practice where water in bottles and containers is supplied in preference to the use of tankers in a variety of circumstances when there is an interruption to normal piped water supplies.

We propose that the point of compliance will be any freshly opened bottle taken from the local distribution point, such as a school or community centre, in the area where the piped water supply is disrupted. It is intended that DWI will explain this more fully in Guidance.

**Part IV
Monitoring of Water Supplies
Regulation 6**

We propose to extend the monitoring arrangements in Regulation 6 to provide for sampling from bottles and containers when these are used.²⁴ The timing and location of sampling is intended to mirror the arrangements already in place for tankers. In particular, it is intended that the monitoring should reflect the quality of water of each uniquely identified batch of bottles after delivery to and storage at each local distribution point since this reflects as closely as practicable the quality of water at the point of consumption taking into account the potential for deterioration of water quality during distribution and storage. Samples shall be taken 48 hours after the distribution of the batch of bottles or containers and will require analysis for enterococci, E. coli, odour, taste, conductivity and hydrogen ion. If water is supplied by this means for another 48 hours from initial distribution subsequent samples will be required then and every additional 48 hours, which will require analysis to demonstrate wholesomeness in accordance with Regulation 4.

Consultation Point 2

²⁰ See draft Regulation 2(4) in Annexes C and D.

²¹ Annex II, Table B1, note 1.

²² See, for example, paras 2.4-5 of the Guidance.

²³ See draft Regulation 2(5)(b) in Annexes C and D.

²⁴ See draft Regulation 2(6) in Annexes C and D.

Do you agree that the definition of wholesomeness in the amended Regulation 4 should be extended to include:

- (a) water supplied in bottles or containers by water undertakers or licensed water suppliers in place of a piped supply, and**
- (b) that such supplies should be subject to similar monitoring requirements as water supplied by tanker in place of a piped supply as set out in the amended Regulation 6, and**
- (c) that to achieve a broad equivalence with monitoring of tankers the unit for monitoring to be set out in guidance by DWI should be each uniquely identified batch of bottles?**

Authorisation of supply points Regulation 8

It is proposed to amend Regulation 8 so that automatic supply point authorisations are limited to certain circumstances.²⁵ Regulation 8(1) enables water undertakers to collect certain data from supply points without prior scrutiny on a case by case basis by the Secretary of State or the National Assembly for Wales (in practice DWI). The introduction of competition into the water industry (via changes made by the Water Act 2003) means that the number of inputs to a water supply zone is likely to increase in the future and therefore the technical considerations as to whether supply point samples are representative of all the water supplied in a given zone are increased in complexity, involving water quality information derived from more than one party (the water undertaker and the combined licensee).

Public confidence in drinking water quality within the self regulation framework relies strongly on trust in the representative nature of the results obtained from monitoring and the intention of this change is to ensure that decisions about supply point monitoring are based on sound evidence and are transparent within the competition framework. To support further water undertakers and combined licensees in their decisions regarding the representative nature of their monitoring arrangements, it is proposed that the amendment to Regulation 8 is made in conjunction with an addition to Regulation 3 as set out above.

The proposal will permit existing supply point monitoring to continue under the authorisation granted by Regulation 8(1) provided that no additional input has been made into the water supply zone in question and provided there has been no other material change of circumstances. In addition, the Secretary of State or National Assembly for Wales will have to power to call in specific cases and require a case by case application for supply point monitoring to be made under Regulation 8(2). This power is likely to be used where DWI becomes aware of a relevant change of circumstances or problem with supply point monitoring results and considers that a case by case examination of the relevant facts is warranted.

Regulation 8(2) enables the Secretary of State or the National Assembly for Wales (in practice DWI) to authorise on a case by case basis supply point monitoring for any parameter, substance, element or micro-organism at any point in the supply chain (which includes water in its original state i.e. raw water at the inlet to a treatment works). When commenting on the proposed new Regulation 16A and the proposed new Regulations 26A to 28, water companies should be aware that authorisations of supply points can include water in its original state (raw water). This will enable water companies to avoid duplication of monitoring for specific parameters in the context of the widened risk assessment process. DWI will update its Guidance on the Supply Point Authorisation process if the amendments are adopted.

Consultation Point 3

Do you agree that:

²⁵ See draft Regulation 2(7) in Annexes C and D.

- (a) Regulation 8 should be amended to limit the use of supply points without prior authorisation by the Secretary of State or the National Assembly for Wales in certain circumstances, and**
(b) the proposed addition to Regulation 3 is useful clarification regarding the future delineation of water supply zone boundaries in this context ?

Numbers of samples
Regulation 9

It is proposed to delete Regulation 9(3) because this is a now otiose transitional provision in relation the old 1989 Regulations.²⁶

Part V Monitoring – additional provisions
Sampling at treatment works
Regulation 13

It is proposed to delete Regulation 13(3) because this is a now otiose transitional provision in relation the old 1989 Regulations.²⁷

Sampling new sources
Regulation 15

To strengthen the safeguards for the protection of public health in respect of new water sources, an addition to Regulation 15 is proposed.²⁸ This will prevent a water undertaker or licensed water supplier from supplying water from any source which has not been used previously for the supply of water by a water undertaker until the Secretary of State or National Assembly for Wales (in practice DWI) has served a notice confirming the carrying out of a satisfactory audit in relation to the samples taken under Regulation 15(1). It is already best practice for water undertakers to consult DWI before bringing a new source into supply. Supply from this source will also be forbidden until 3 months have passed following completion of a risk assessment of the treatment works under new Regulation 27 and the submission to the Secretary of State or the National Assembly for Wales (in practice DWI) under Regulation 28. This standstill provision, modelled on the 'opposition procedure' used in some EC competition laws, will enable DWI to analyse the risk assessment and consider whether further regulatory action is necessary under Regulation 28 in respect of the treatment works in question.

Water supply licensees authorised to introduce water into undertakers' supply systems (combined licensees) are currently required to do this by the standard licence condition 13 put in place by the Secretary of State in consultation with the National Assembly for Wales.²⁹ This proposal brings water undertakers in line with this requirement and puts in place a mechanism to confirm that the appropriate monitoring has been completed and the results are satisfactory for all new sources of water.

For public confidence and efficiency reasons, it is considered desirable that the DWI is able to apply a common and transparent process of dealing with the technical matters regarding drinking water quality resulting from the introduction of all new sources of water regardless of the provider. Provision is made in these amendments to recognise that the special circumstances of a civil emergency may exceptionally necessitate the supply of water with little or no treatment in conjunction with other measures e.g. boil water warning notices to consumers. However, a risk

²⁶ See draft Regulation 2(8) in Annexes C and D.

²⁷ See draft Regulation 2(9) in Annexes C and D.

²⁸ See draft Regulation 2(10) in Annexes C and D.

²⁹ Standard Conditions of Water Supply Licences determined by the Secretary of State on 7 November 2005 under section 17H of the Act. See www.defra.gov.uk/environment/water/industry/wa03regs/competition

assessment must still have been carried out. In some civil emergency situations, it is expected that the risk assessment will be brief.

Note: changes to Regulations 27 and 28 are proposed below to widen the scope of the risk assessment required for every treatment works (which includes water in its original state as well as water after it has been subjected to treatment). Regulation 27 at the moment is a requirement to carry out a risk assessment for a single hazard (Cryptosporidium). Under the existing and proposed provisions, the 2000/1 Regulations (will) require the taking of risk mitigation steps as a consequence, where appropriate.

Consultation Point 4

Do you agree that Regulation 15 should be strengthened so that water undertakers and combined licensees cannot supply water from a new source unless they received a notice from the Secretary of State or the National Assembly for Wales and until 3 months after they have supplied a copy of the risk assessment to them under Regulation 28?? This brings the situation for water undertakers into line with that of combined licensees pursuant to condition 13 (prohibition on introduction - combined licensees) of the Standard Conditions of Water Supply Licences

Collection and analysis of samples New Regulation 16A

A new **Part 5A** is proposed – **Drinking Water Protected Areas**

In this new Part a new **Regulation 16A** is proposed.³⁰ This would introduce into the 2000/1 Regulations for the first time a formal requirement for water undertakers and combined licensees to collect and analyse samples of water at the point of abstraction.

Under Regulation 16A(2) the water undertaker or combined licensee would be required to establish a raw water monitoring programme to enable compliance with the proposed water treatment and risk assessment provisions in Regulations 26A to 28. This reflects existing water industry best practice where operational samples of raw water are collected and analysed to inform risk assessment and risk management, including the design and operation of water treatment. Technical audits and incident investigations carried out and published by the DWI³¹ indicate that for public health protection, raw water monitoring should be formalised and consistently carried out in accordance with a clear set of principles.

Proposed Regulation 16A(3) and (4) requires water undertakers and combined licensees to include in their raw water monitoring programme for surface and groundwater abstraction points, the Water Framework Directive requirements for drinking water protected areas. The organisms and substances for which tests must be undertaken are specified in a new Schedule 5 (Table A for surface waters and Table C for groundwaters). The minimum number of samples to be collected is also set out in Schedule 5 (Table B for surface waters and Table C for groundwaters).³²

The parameters listed in Schedule 5 represent all the Priority Substances listed in Annex X to the Water Framework Directive³³ except for dichloromethane (which is too volatile to constitute a significant risk in treated water) and anthracene, fluoranthene and naphthalene which are only relevant for environmental assessments and therefore are not covered by the Drinking Water

³⁰ See draft Regulation 2(11) in Annexes C and D.

³¹ Drinking Water 2005, Chief Inspector of Drinking Water, 2005.

³² See draft Regulation 3 and paragraph 5 of the Schedule in Annexes C and D.

³³ See Decision 2455/2001/EC establishing the list of priority substances in the field of water policy and amending the Water Framework Directive (OJ L331, 15.12.2001, p.1)

Directive. The other chemical parameters listed are taken from Annex I (Table B) of the Drinking Water Directive. Three key microbiological parameters are also included. For groundwaters, additional parameters are taken from Annex V, paragraph 2.4.2 of the Water Framework Directive.

Proposed Regulation 16A(5) enables the Secretary of State or the National Assembly for Wales (in practice DWI) to disapply or vary the monitoring requirements in Schedule 5 by way of a notice served on the water undertaker or combined licensee, when a risk assessment demonstrates that a substance is not discharged in significant quantities in the source water catchment and is not likely to impact adversely on the status of the water body. This power will be exercised in close co-ordination with the EA having considered the monitoring results already obtained for a particular water body and the characterisation assessments prepared and reviewed under Article 5 of the Water Framework Directive. Powers are available to the Secretary of State and National Assembly for Wales³⁴ to ensure that risk assessment information is gathered and provided by the EA to inform raw water monitoring by water undertakers and combined licensees.

Proposed Regulation 16A(6) implements and establishes the methodological and quality control requirements for Water Framework Directive drinking water protected area monitoring arrangements. These requirements are no more onerous than required already in the 2000/1 Regulations for the monitoring of drinking water samples at sample points and supply points.

The EA is responsible for implementation much of the Water Framework Directive in England and Wales, including establishing a comprehensive monitoring programme for that Directive.³⁵ Information available to Defra through detailed discussions with the EA and work carried out by UKWiR (Report Ref. No. 02/WR/09/5: Implications of changing groundwater quality for water resources and the UK water industry) has shown that including the monitoring requirements of the Water Framework Directive as a component of the raw water monitoring programmes carried out by water undertakers and combined licensees is the most cost effective means of meeting the Water Framework Directive monitoring requirements in England and Wales. The DWI has consulted its equivalents in Scotland and Northern Ireland who have confirmed that this approach is consistent with their proposals for how WFD monitoring should be delivered in the rest of the UK. The DWI has confirmed that its electronic data transfer arrangements with water undertakers can be used to make raw water monitoring reports and data available to the EA and Defra thereby ensuring that the administrative costs of Water Framework Directive monitoring do not fall on the water industry and its customers.

Overall, therefore, the intention of new Regulation 16A is to reinforce the importance to public health protection of raw water quality monitoring in terms of risk assessment and risk management generally and specifically to verify that adequate water treatment safeguards are in place. Additionally it will supplement the EA's monitoring programme for England and Wales in relation to Articles 7 and 8 of the Water Framework Directive. During 2007 before this provision comes into force, the EA's monitoring programme combined with water undertakers' operational monitoring will complete the implementation of these provisions. This proposed amendment should be considered in conjunction with the proposed revision to the water treatment and risk assessment requirements that will result from new Regulations 26A to 28 as set out below.

Consultation Point 5

Do you agree that the requirement for a raw water monitoring programme as proposed in Regulation 16A:

(a) is protective of public health by ensuring that adequate information is available for risk assessment and water treatment design and operation, and

³⁴ Section 40 Environment Act 1995.

³⁵ See, for example, Regulation 9 of the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 (SI 2003/3242).

(b) will implement the monitoring requirements of Articles 7 and 8 and Annex V of the Water Framework Directive for water bodies used for the abstraction of drinking water?

Part VI – Investigations, authorisation of departures and remedial action
Authorisation of a temporary supply of water that is not wholesome
Regulation 19

A minor drafting amendment is to be made to this provision to correct a minor error in the current 2000 Regulations.³⁶ This correction does not need to be made to the 2001 Regulations.

Publicity for Authorisations
Regulation 23

Instead of requiring water undertakers or water supply licensees to publish details of an authorisation in newspapers circulating in the area of the water supply zone(s) concerned, it is proposed to require such information to be made accessible on their websites free of charge. This widens public access to this information through the use of modern communications technology and considerably lessens the bureaucracy and costs currently associated with authorisations. It is proposed to make it a requirement that the authorisation should be published on water companies' respective homepages for at least 14 days to ensure that some prominence is given to this issue. It would be not acceptable for the details to be buried deep in a website.

The DWI has provided evidence that for some authorised departures involving large water treatment works (where the water supply is distributed via large trunk mains and/or many service reservoirs) the number of zones and thus the scale of the geographical area covered by the authorised departure can be substantial requiring advertisements to be placed in a large number of newspapers. This was not fully appreciated at the time when the regulations were first made.

The proposed revision does not alter any other aspect of the process of authorisation of departures and the provision is retained for the Secretary of State or the National Assembly for Wales to require other public notice where appropriate. It is not expected that this power will be used any differently than it is now.

Consultation Point 6

Do you agree with the proposed Regulation 23 which will require water undertakers to place the details of authorisations, free of charge, on the homepages of their websites in place of publishing these details in advertisements in all the relevant newspapers? Can you suggest any alternative means of bringing authorisations to the attention of those who may be affected, excluding advertising in newspapers?

Part VII – Water treatment

Interpretation

³⁶ See draft Regulation 2(12) in Annex C.

Regulation 25

It is proposed that most of this Regulation be revoked.³⁷ Most of its contents are either no longer required or are dealt with in other parts of the 2000/1 Regulations. The exclusion of springs from the meaning of surface water for the purposes of Regulations 26 and new 26A is retained.

Treatment of raw water Regulations 26 and 26A

The current Regulation 26 defines water treatment by reference to SWAD which is repealed by the Water Framework Directive. As a consequence the categories of water for abstraction and treatment in Regulation 26(3) and (4) become obsolete with effect from 22 December 2007. Accordingly it is necessary to revoke Regulation 26³⁸ and to make new provisions. The raw water monitoring required by proposed Regulation 16A set out earlier is an integral part of the proposals for the revision of Regulations 26 – 29 outlined here. Together these amendments are designed to ensure that an equivalent and adequate level of public health protection will be maintained after 22 December 2007.

In new Regulation 26A³⁹ the existing disinfection requirement is retained. This prevents water undertakers and combined licensees from supplying water from any source unless it has been disinfected. However it is necessary to introduce a new requirement for preliminary treatment to ensure the successful disinfection of surface water or ground water under the influence of surface water. The proposed provision for preliminary treatment will be readily understood in practice by the water industry as the treatment necessary to prepare the raw water for disinfection. Preliminary treatment is defined in terms of particle removal (<1 NTU) and in terms of the need to remove any specific substance, property or element which would interfere with the performance of disinfection. The intention of the new wording of Regulation 26A(1) is therefore to secure, on the repeal of the Regulation 26, that disinfection, the essential safeguard against outbreaks of waterborne disease, continues to be practiced effectively in respect of all public water supplies.

Regulation 26(2) currently enables the Secretary of State or the National Assembly for Wales to disallow the requirement for disinfection for specified groundwaters. Since 1989 all groundwater sources of public water supplies in England and Wales have been disinfected and no circumstances have arisen whereby the Secretary of State or National Assembly for Wales have seen fit to authorise a supply of water that has not been disinfected before it is supplied for human consumption. There is strong evidence published by the Health Protection Agency and the World Health Organisation that the absence of, or the failure of, disinfection remains a significant contributory cause of outbreaks of waterborne disease in developed countries. On these grounds it is proposed to revoke, and not replace, the “exemption” in Regulation 26(2).

New Regulation 26A includes a requirement that if any property of, or element, organism or substance present in a source of water is at a value or concentration or in such numbers that may constitute a potential danger to human health, then the water shall not be abstracted for supply for domestic purposes⁴⁰ unless the water undertaker or combined licensee has put in place adequate blending or treatment arrangements designed and operated to reduce the value, concentration or numbers to a safe level before any water enters supply. This wording is the intended replacement of the categories of source water quality and treatment pursuant to SWAD that will cease to apply from on 22 December 2007. By moving away from the approach of setting categories based on monitoring results, the provisions are simplified and the use, by water undertakers and combined

³⁷ See draft Regulation 2(16) in Annex C and draft Regulation 2(15) in Annex D.

³⁸ See draft Regulation 4 in Annexes C and D.

³⁹ See draft Regulation 2(17) in Annex C and draft Regulation 2(16) in Annex D.

⁴⁰ Referred to in the 2000/1 Regulations as “Regulation 4(1) purposes” because it includes, under Regulation 2(1) domestic supplies to premises in which food is produced.

licensees, of best available technology is facilitated whilst still making it mandatory for all water to be properly treated before it is supplied.

The term “potential danger to human health” (in Regulation 26A(4)(a)) derives from Article 4 of the Drinking Water Directive. The term “potential danger to human health” is not defined. However in the case of a serious breach of this Regulation it is envisaged that the DWI would initiate criminal proceedings. Therefore ultimately it will be for the Courts to decide what constitutes a “potential danger to human health” in any particular case. DWI considers that the term is likely to mean water having a property or the presence of an element, organism or substance in the water supplied at a value, concentration or number that is reasonably known to cause, or have the potential to cause chronic or acute illness or infection in consumers who drink the water.

For the purposes of applying new Regulation 26A, the definition of disinfection in the 2000/1 Regulations (Regulation 2(3)(ii)) has been clarified as “a process of water treatment to remove or render harmless to human health any pathogenic micro-organism and any other organism which is a pathogenic parasite that would otherwise be present in the water.”

Overall the intention of new Regulation 26A is to provide updated and simplified water treatment requirements for public health protection based on water industry best practice by requiring that all water is disinfected and adequately treated before it is supplied.

Consultation Point 7

Do you agree that new Regulation 26A as amended will provide an adequate level of ongoing public health protection when the water treatment and disinfection arrangements as derived from SWAD cease to apply in December 2007?

Risk Assessment

Regulation 27

Currently Regulation 27 requires water undertakers to carry out a risk assessment for *Cryptosporidium* at each of their water treatment works to establish whether there is a significant risk of *Cryptosporidium* being present in the water leaving the treatment works. This is the basis of the Water Supply (Water Quality) (Amendment) Regulations 1999, also known as the *Cryptosporidium* Regulations which were consolidated into the 2000/1 Regulations. In general, this requirement for risk assessment has been very successful: the Health Protection Agency⁴¹ has reported that the number of mains water related outbreaks of cryptosporidiosis has reduced significantly and the water industry has applied greater emphasis on improving particle removal through treatment. However, the DWI has noted that an unintended consequence of these provisions has been a focus by water undertakers on treatment and end point monitoring at the expense of source water monitoring and protection.

In line with the WHO water safety plan framework and Defra’s Strategy for a more risk based approach to regulation, it is proposed that the requirement for risk assessment at each water treatment works be extended to cover all potential dangers to human health, not just *Cryptosporidium*.⁴² It must be emphasised that this is not proposing a reduction in the protection against *Cryptosporidium*; rather it enables water undertakers and combined licensees to undertake and document a single comprehensive risk assessment for each water supply chain embracing all hazards. This approach also provides a mechanism for water undertakers and combined licensees to implement the risk based aspect to raw water monitoring as set out in proposed new Regulation 16A and as required by the Water Framework Directive.

⁴¹ ‘Cryptosporidiosis: A report on the surveillance and epidemiology of *Cryptosporidium* in England and Wales’, September 2006; DWI70/2/201.

⁴² See draft Regulation 2(18) in Annex C and draft Regulation 2(17) in Annex D.

The new provision would require risk assessments of existing treatment works within a specified period and risk assessments of new treatment works before they are used. The new provision would also require water companies to keep the assessments under review.

Procedure following risk assessment

Regulation 28

Regulation 28 currently sets out the procedure following a risk assessment for *Cryptosporidium*. In line with the proposed changes to Regulation 27 amendments are made to Regulation 28 to widen the scope of this Regulation to cover all potential dangers to human health identified through risk assessment.⁴³ It is proposed that a report of the risk assessment or review should be sent to the Secretary of State or National Assembly for Wales (in practice, DWI). Some requirements for the report are set out in the new regulation 28. The arrangements for the Secretary of State and National Assembly for Wales (in practice, DWI) to issue notices have been changed so that DWI will no longer be required to issue notices in response to all risk assessments. Instead it is proposed that DWI should be able to serve enforcement notices in respect of treatment works identified to be at significant risk. Under the proposed procedure DWI will be able to require water undertakers or combined licensees to maintain, review, audit or revise its risk mitigation measures.

Also included is the power to issue a prohibition notice to prevent the supply of water from a specified treatment works completely, or to prevent supply unless certain conditions are met. It is proposed that a failure to comply with this type of notice should be a criminal offence.

Treatment for *Cryptosporidium*

Regulation 29

It is proposed to revoke Regulation 29⁴⁴ which sets out the monitoring arrangements, first introduced in the 1999 *Cryptosporidium* Regulations, for a treatment works assessed as being at significant risk from *Cryptosporidium*. This Regulation requires water undertakers and combined licensees to carry out daily regulatory monitoring (according to rigid guidelines set out in the regulations) or to install a process for treating the water that is capable of removing *Cryptosporidium* oocysts to <1 per 10 litres. Where such treatment is installed the treated water has to be sampled continuously at a rate of at least 40 litres per hour through an approved collection device which is required to be removed for analysis each day. The Regulations also lay down various other requirements and conditions relating to sampling and analysis. Failure to comply with Regulation 29 are currently offences (see Regulation 33 below).

There are a number of reasons for these proposals:

- At least 400,000 one thousand litre samples have been taken since 2000 and the DWI has reported that only a very small number have contravened the treatment standard.
- The monitoring arrangements are far more stringent than those required for any other substance, parameter or micro-organism that poses a potential risk to public health.
- The administrative aspects of the regulation, particularly the detailed reporting requirements, are very time consuming for both water companies and the DWI.
- The requirement for a process to “remove” oocysts is a barrier to innovation. Reliable evidence is now available demonstrating that ultraviolet disinfection at a suitable intensity is effective at destroying oocyst infectivity but it cannot be used as the regulatory requirement

⁴³ See draft Regulation 2(19) in Annex C and draft Regulation 2(18) in Annex D.

⁴⁴ See draft Regulation 2(20) in Annex C and draft Regulation 2(19) in Annex D.

is for physical removal, rather than inactivation of oocysts. Similar information is available for ozone as a disinfectant against *Cryptosporidium* in some circumstances.

- The current monitoring regime does not measure the viability or species of the oocysts detected and published information has shown that both these factors are relevant to the assessment of risk to public health.
- No prosecutions have been taken forward for breaches of this regulation since 1999. Where outbreaks have occurred either the regulation has not been breached or it has not applied to the particular set of circumstances.

It must be emphasised that the proposal to revoke Regulation 29 will not undermine the public health improvements that have been put in place since the *Cryptosporidium* Regulations came into force in 1999. Under proposed Regulation 27 water undertakers will still have to carry out a risk assessment at each of their treatment works. *Cryptosporidium* will still be a major hazard to be assessed and, where it is shown to represent a significant risk, under proposed Regulation 28, water undertakers will still be required to mitigate the risk either through improvements to source water protection or improved treatment or both. Validation monitoring will still be required to demonstrate that the actions are effective whether this is by demonstrating that oocysts are removed from the water or, for example, that an effective UV or ozone dose has been applied or membrane integrity has been continuously maintained. It is intended that water undertakers and combined licensees include *Cryptosporidium* monitoring in their raw water monitoring programmes to inform their risk assessments and new Regulation 16A enables the DWI to carry out independent checks to ensure that appropriate testing is being carried out.

The overall intention of the proposed procedure is for water undertakers and combined licensees to carry out and keep under review a single comprehensive risk assessment for each treatment works. The documented risk assessment will provide reassurance as to how public health is being safeguarded in respect of each water supply in terms of all forms of hazards.

Consultation Point 8

Do you agree that the risk assessment procedures required in Regulations 27 and 28 for *Cryptosporidium* should be widened in scope, in line with World Health Organisation Guidelines for Drinking-water Quality 2004, to cover all forms of risk to human health?

Consultation Point 9

Do you agree that together, the proposed amendments to Regulations 27 and 28, and the new Regulations 16A and 26A are sufficiently robust to enable the revocation of the existing Regulations 26 to 29, which contain existing requirements as to treatment and the provisions for risk assessment, taking action and forensic monitoring for *Cryptosporidium* at those treatment works judged by the water undertaker or combined licensee to be “at significant risk”? Do you agree that this does not represent a reduction in the level of public health protection already afforded against *Cryptosporidium*? Do you agree that it will encourage innovation by the water industry and, in particular will facilitate the use of inactivation, as well as removal technologies?

Application and Introduction of Substances and Products

Regulation 31

It is proposed that Regulation 31 will remain substantially unchanged. At the present time the future of the European Acceptance Scheme and its implications for the approval system for substances and products in the UK is unclear.

A proposal is made that the Secretary of State and the National Assembly for Wales be given the power to serve notice on the person who makes an application for approval of a substance or product to require the person to pay a charge which reflects the administrative expenses incurred by the Secretary of State or the National Assembly for Wales in connection with the application.⁴⁵

The provision for charges was contained in the 1989 Regulations but not carried forward in the 2000/1 Regulations because the overall cost of the Regulation 31 approvals scheme had not warranted cost recovery during the 1990's.

Applicants for approval of a product already bear the cost of making an application, including the costs of any testing. The proposed charging scheme relates to the administrative costs of the application and follows similar arrangements for the approval of pesticides by HSE. It is proposed to implement a small registration charge for all applications. The benefit of this is that it will minimise the time spent by the expert committee and its secretariat on speculative applications which do not subsequently proceed. It is not intended to make any additional charges for the majority of straightforward applications which only need to be considered once by the expert committee or relate to updating of information in the Secretary of State's or National Assembly for Wales' published list of approved products. A small number of complex applications requiring more detailed scrutiny as regards the risks to public health may attract a higher charge. The Technical Secretariat will publish details of the charges together with the Guidance to Applicants on the DWI website area set aside for Regulation 31 matters. It is intended that the cost recovery achieved through the proposed charging scheme will relate to the cost of expert committee advice, not to the cost to DWI of administering the scheme as a whole.

Note: indicative charges are shown in the Partial RIA in Annex A of this document

Regulation 31 of the 2001 Regulations is being revoked and remade to ensure compliance with the Technical Standards Directive.⁴⁶

Consultation Point 10

Do you agree that Regulation 31 should include the power for the Secretary of State and National Assembly for Wales, under certain circumstances, to require the person making an application for the approval of a substance or product to pay a charge in line with the principles outlined?

Offences

Regulation 33

The proposed amendments to Regulations 26, 27, 28 and 29 mean that the specific offences in Regulation 33(1), (2) and (5) relating to supply of unwholesome water, treatment and monitoring for *Cryptosporidium* will be revoked.⁴⁷

A more general offence is introduced which bears directly on the public health protection requirement of adequately treating and disinfecting water before it is supplied. This reflects the

⁴⁵ See draft Regulation 2(21) in Annex C and draft Regulation 2(20) in Annex D.

⁴⁶ See draft Regulation 2(20) in Annex D.

⁴⁷ See draft Regulation 2(22) in Annex C and draft Regulation 2(21) in Annex D.

approach in new Regulation 26A. The offence of failing to comply with regulatory requirements to make necessary improvements in treatment processes is also extended to all risks to human health, in addition to *Cryptosporidium*. This reflects the approach in new Regulation 28. DWI will continue to work with water undertakers and combined licensees to seek to prevent any potential danger to human health arising from the public water supply. The wider risk assessment procedures would place the primary duty on water undertakers and combined licensees to consider compliance issues holistically. DWI's role would be as part of the checks and balances in what should become (if it is not already) embedded in company procedures. DWI will retain the power to take civil enforcement action under section 18 of the Water Industry Act 1991 for any breaches of duties contained in the Regulations which it uncovers.

However, an adequate criminal regime is also necessary because of the serious consequences for public health which would arise if there was a failure to disinfect or adequately to treat the public water supply. The threat of credible criminal sanctions provides further incentives for water undertakers and combined licensees to take the necessary steps to prevent an incident. Prosecutions are also important to make examples of those who engage in bad practice and to ensure that lessons are learnt for the future. The proposed criminal sanctions would not apply in the case of severe civil emergencies (such as terrorist strikes or major natural disasters) and also would not apply if the water undertaker or combined licensee had taken all reasonable steps and exercised all due diligence to avoid the incident. This strikes a fair balance between the public interest and the private concerns of water undertakers and combined licensees.

Together with the risk assessment process, the civil and criminal enforcement powers will ensure that an effective *ex ante* compliance programme based on prevention of problems is in place. It will also ensure that there are adequate means to deal with failures in risk assessment, disinfection and treatment after any incident.

Consultation Point 11

Do you agree with the revision of the sanctions in Regulation 33 so they no longer bear on the specific tasks relating to the carrying out of *Cryptosporidium* monitoring and treatment but are directed to the more general public health protection requirements of adequately treating and disinfecting water before it is supplied and complying with statutory enforcement notices in relation to a failure of treatment in relation to any danger to human health?

Part VIII - Records and Information Provision of Information Regulation 35

Regulation 35(1) requires water undertakers and water supply licensees to maintain a record available for inspection by the public at all reasonable hours and free of charge at its offices. This public record has to contain the information maintained in accordance with Regulation 34 which includes the designation of water supply zones, particulars of any authorised departures, particulars of any actions taken or required to be taken by the water undertaker or licensees as a result of enforcement action, authorised departures, undertakings or notices relating to a breach of an indicator parameter and the results of regulatory samples.

Both Defra and the Welsh Assembly Government recognise the importance of such information being readily available to the public. They also recognise that very little use has been made since 1989 of the public record by means of visits by consumers or other stakeholders to water undertakers' offices; nearly all requests for information to water undertakers have been by telephone, post or e-mail. Furthermore most water undertakers do not now have many offices in the local community and it is unlikely that water supply licensees will do so. Since the beginning of 2005, all water undertakers have been required to provide the DWI with the results of each

individual regulatory sample placed on the public record and to make this information available to the public in their annual reports and via their website or directly on request. Individuals are thus able to view local, regional and national drinking water quality data from a number of sources using communication methods of their choice. The same requirement will be imposed on water supply licensees in due course.

Defra and the Welsh Assembly Government recognise the substantial cost associated with the maintenance of this record. We are therefore proposing that the 2000/1 Regulations should no longer require water undertakers or water supply licensees to maintain a public record at their offices. Instead, they would still have to keep the information required by Regulation 34 and under Regulation 35 would be required to provide information free of charge within seven days of receipt of a request.⁴⁸ Water undertakers would still be required to notify each customer of their rights to information annually.

An alternative approach would be to revoke the water specific regime and for customers to rely on their rights to access environmental information under the Environmental Information Regulations 2004.⁴⁹ In the context of water supplies and water quality issues, water undertakers and water supply licensees are considered to be “public authorities” for the purposes of those Regulations.

The existing provisions in relation to the voluntary supply of information by water companies to interested parties following a water quality incident would be retained.

Consultation point 12

Do you agree that Regulation 35 should be amended so that water undertakers are no longer required to maintain a record available for inspection by the public at all reasonable hours and free of charge at their offices, if this requirement was replaced by one of providing information on request within seven days and free of charge? Do you consider that it would be better to rely exclusively on the Environmental Information Regulations 2004?

Publication of information Regulation 36

It is proposed to revoke Regulation 36 which requires water undertakers to publish an annual report relating to the preceding year containing, inter alia: information on the number of water treatment works, service reservoirs and supply points; the number of water supply zones; the number of regulatory samples taken at treatment works, supply points, service reservoirs and in water supply zones; the number and percentage of samples which contravened a prescribed concentration or value or specification for an indicator parameter; and details of any authorised departures.⁵⁰ Water undertakers are required to send a copy of this report to each local authority within their area of supply. Water supply licensees are obliged to assist undertakers in preparing this report.

Defra and the Welsh Assembly Government strongly support the need for local authorities to be provided with adequate and timely information on the quality of drinking water supplied within their areas. However we also recognise that the prescriptive style of reporting in the 2000/1 Regulations represents a significant administrative burden, in addition to it not being easy to interpret. It is further recognised that significant developments on reporting by the DWI who commenced publishing reports designed for local authorities since 2004 on its website, on CD and in hard copy have been very well received, not least because local authorities value the independent commentary provided by the DWI.

⁴⁸ See draft Regulation 2(23) in Annex C and draft Regulation 2(22) in Annex D.

⁴⁹ SI 2004/3391; see www.defra.gov.uk/corporate/opengov/accessinfo .

⁵⁰ See draft Regulation 2(24) in Annex C and draft Regulation 2(23) in Annex D.

Consultation point 13

Currently the reports produced by water companies under Regulation 36 largely duplicate the annual reports of independently checked test results provided to local authorities by the Drinking Water Inspectorate. Do you agree that Regulation 36 should be revoked with the result that water undertakers will no longer be required to produce an annual drinking water quality report for local authorities?

Schedule 1 - Prescribed concentrations and values

Table B Chemical parameters

In Part II of Table B (national requirements), it is proposed to delete line 3 pertaining to hydrogen ion. The national requirement for hydrogen ion set an upper limit pH value of 10.0 whereas the Directive indicator specification is a pH value of 9.5. Both set a minimum pH value of 6.5. The rationale for setting a national requirement for hydrogen ion was to retain the mandatory standards for pH value in the 1989 regulations so as to ensure that water quality did not adversely affect the materials and fittings within the consumer's premises. The mandatory value of pH value 10 was selected because it was thought it would allow greater flexibility in optimising plumbo-solvency control measures in circumstances where there was a large or complex distribution system.

The DWI has since confirmed that no evidence of need for the national standard has emerged through water undertakers' plumbo-solvency optimisation programmes. The Drinking Water Directive requires monitoring for hydrogen ion as an indicator parameter and so it is already also included in Schedule 2 of the 2000/1 Regulations at a pH value of 9.5. The Drinking Water Directive indicator parameter status and specification is considered to be a sufficient safeguard and control for this parameter. This amendment will have the benefit of simplifying this aspect of the 2000/1 Regulations; it is confusing for some stakeholders including the public as to why there are two maximum pH values.⁵¹

It is proposed to amend the lines containing items 6 (odour) and 8 (taste) to bring the standard for these parameters in line with the Drinking Water Directive.⁵² It is proposed that the numerical standard currently in place of no higher than a dilution number of 3 at 25°C, is removed and replaced with the requirement that the water is acceptable to consumers and has no abnormal change. We believe that there are no cost implications if the standard is revised as proposed but we would be grateful if consultees would confirm that this is the case.

Schedule 2 – Indicator parameters

A correction is proposed by including the Drinking Water Directive specification for a minimum pH value of 6.5 in line 6A in the 2000 Regulations and line 7 in the 2001 Regulations.⁵³

Schedule 3 – Monitoring

It is proposed to insert the parameter *Clostridium perfringens* (including spores) into Table 2 (annual sampling frequencies: water supply zones) and Table 3 (annual sampling frequencies: treatment works or supply points) under the heading "Subject to audit monitoring".⁵⁴ This is for clarification purposes so it is more obvious that audit monitoring for this parameter is required

⁵¹ See draft Regulation 3 and paragraph 2(a) and (b) of the Schedule in Annexes C and D.

⁵² See draft Regulation 3 and paragraph 2(c) of the Schedule in Annexes C and D.

⁵³ See draft Regulation 3 and paragraph 3 of the Schedule in Annexes C and D.

⁵⁴ See draft Regulation 3 and paragraph 4 of the Schedule in Annexes C and D.

where the water does not originate from or, is not influenced by, surface water; otherwise check monitoring is required.

Consultation point 14

Do you agree that the National requirement in Schedule 1 Table B Part II for prescribed values for the hydrogen ion parameter are no longer necessary and the indicator parameter status and specification provide sufficient safeguards and control for this parameter? Do you agree with the changes to pH values? Do you agree that the taste and odour standard should be the same as that in the Drinking Water Directive? Do you agree that *Clostridium perfringens* (including spores) should be added to the monitoring provisions in Schedule 3, Tables 2 and 3?

4 How to make your contribution

4.1 Closing date for comments

Comments on the issues and consultation points in this paper should reach the Department for Environment, Food and Rural Affairs and the Welsh Assembly Government (if appropriate) by 31 March 2007.

4.2 Confidentiality of the response to the consultation

Defra and the Welsh Assembly Government may wish to publish responses to this consultation and deposit them in the libraries of the House of Commons, House of Lords and the National Assembly for Wales. In addition, Defra or the Welsh Assembly Government may be required to disclose responses to this consultation under the Freedom of Information Act or Environmental Information Regulations. Unless the respondent claims specifically that a response should be treated in whole or in part as confidential, it is assumed that there are no objections to the response being made public or disclosed as described. Full reasons for any claim of confidentiality must be given and where a claim is made, the respondent will be consulted before any disclosure is made.

4.3 Addresses to which comments should be sent

Comments may be made by post, e-mail or fax to:

Peter Marsden, Principal Inspector (Risk Analysis)
Drinking Water Inspectorate
Acting on behalf of the Water Supply and Regulation Division
Department for Environment, Food and Rural Affairs
Room G01
55 Whitehall
London SW1A 2EY

Fax: 020 7082 8028

E-mail: regs.consultation@defra.gsi.gov.uk

Respondents in Wales are asked to copy their comments to:

Miss Eve Read
Environment – Protection and Quality Division
Welsh Assembly Government
Cathays Park
Cardiff C10 3FQ

Fax: 029 2082 5008

E-mail: water@wales.gsi.gov.uk

4.4 Further copies

Further copies of this consultation paper may be obtained from the above addresses.

The consultation paper is also available on the following websites:

www.defra.gov.uk
www.wales.gov.uk
www.dwi.gov.uk

Annex A

Partial Regulatory Impact Assessment

Partial Regulatory Impact Assessment

1 Title of proposal

The Water Supply (Water Quality) (Amendment) Regulations 2007

2 Purpose and Intended Effect

- Objectives

1. To ensure that the water treatment and risk assessment requirements of the amended Water Supply (Water Quality) Regulations 2000 (SI 2000/3184) and the Water Supply (Water Quality) Regulations 2001 (SI 2001/3911(W 323)) (together referred to as the 2000/1 Regulations) continue to provide an effective level of health protection for consumers of public water supplies when Article 7 of the Water Framework Directive (Directive 2000/60/EC) supersedes the EC Directive 75/440/EC on the quality required of surface water intended for the abstraction of drinking water (SWAD).
2. To consolidate, rationalise and clarify elements of the existing regulations to bring them up to date, improve the efficiency of government intervention and provide compensatory simplification for the additional regulation introduced in (1).

Devolution: this is a devolved matter that affects all parts of the UK. This RIA covers the water companies whose supply area is wholly or mainly in England and has been prepared by the Department for Environment, Food and Rural Affairs (Defra). With the agreement of the Welsh Assembly Government, this RIA also describes amendments proposed to be made by the National Assembly of Wales to its legislation aimed to achieve the same objectives as regards the water companies whose supply area is wholly or mainly in Wales. Separate legislation exists covering Scotland and Northern Ireland.

- Background

3. The 2000/1 Regulations define the standards to be met and other arrangements, such as water treatment, risk assessment, monitoring and reporting, involved in ensuring the safety of public drinking water supplies.
4. The 2000/1 Regulations implement the requirements of European Directive 98/83/EC on the quality of water intended for human consumption (the Drinking Water Directive) and the water treatment requirements of SWAD. They also lay down other national requirements as permitted by EC law.
5. SWAD is being repealed at the end of 2007, due to the implementation of the Water Framework Directive. The regulatory gap left by the repeal of SWAD in relation to drinking water treatment is the main reason for this proposal to amend the regulations. The opportunity afforded by the amendment will be used to make several other changes to the regulations to bring them up to date, provide robust protection of public health and increased regulatory efficiency.
6. A number of current regulatory provisions and policies will be positively affected by these proposals.

- The implementation of the Water Framework Directive and in particular the introduction of drinking water protected areas
- The implementation of the Drinking Water Directive, bearing in mind its potential future replacement with a new Directive based on updated WHO guidelines,
- Water Industry Act 1991 and the requirements in section 68 of that Act for no deterioration in the quality of drinking water, and
- Defra's Better Regulation Aims.

- Rationale for Government Intervention

7. Public drinking water supply is provided by water undertakers and by water supply licensees using the supply systems of water undertakers on the basis of a regulated de facto monopoly in relation to water distribution due to the vast economies of scale in water collection, treatment and distribution. A system of drinking water quality regulation is in place to protect the interests of water consumers and the wider public which would otherwise not be protected. Part of this quality regulation is the specification of treatment requirements for water informed by risk assessment and monitoring. Evidence from the Drinking Water Inspectorate (DWI) demonstrates the need for an ongoing regulatory requirement for basic water treatment processes which are essential to safeguarding human health and drinking water quality as documented in the annual report of the Chief Inspector of Drinking Water on incident assessments and technical audits. SWAD specified the treatment requirements and its repeal therefore leaves a significant gap in the quality regulation of the industry. In the absence of a replacement for SWAD (**do nothing**) there would no longer be effective incentives on water undertakers or water supply licensees to undertake the necessary treatment to protect human health.

3 Consultation

- Within Government and the regulated industry

8. The DWI has held informal discussions on the proposal with water company representatives on 28 June (England) and 6 July (Wales). The feedback from these discussions with representatives of water companies, local authorities, the Health Protection Agency and the Consumer Council for Water has been used to inform the development of the proposed amendments. Defra has also been liaising with the Welsh Assembly Government to achieve a consistent approach to raw water monitoring and drinking water quality regulation more generally. Defra and WAG have liaised and collaborated with the Environment Agency (EA) in preparation for implementation of the Water Framework Directive in relation to drinking water protected areas and monitoring requirements. Defra has also consulted Ofwat, in particular in relation to this RIA, and other Government Departments.

- Public Consultation

9. There has been no previous public consultation by Defra in England or Welsh Assembly Government in Wales on raw water monitoring or specifically on Article 7 of Water Framework Directive in relation to drinking water protected areas. Since 2000, there have been a number of public consultations in relation to the transposition and implementation of the Water Framework Directive more generally in England and Wales. The 2000/1 Regulations were consulted on in 2000 and 2001.

4 Options

Option 1 - Do Nothing

10. No amendments are made to the 2000/1 Regulations other than minor revocation (Regulation 26).
 - The water treatment arrangements in the existing domestic legislation for surface water (Regulation 26) are derived from and cross refer to SWAD which ceases to have effect in 2007. This option assumes that no changes are made to the current regulations to secure or enhance the current raw water classification and assessment of appropriate treatment requirements. The Water Companies and DWI would be made aware of public health issues only when failures of standards occurred at consumers' taps.
 - Existing Regulation 26 would be revoked to remove otherwise unworkable legislation.
 - The existing risk assessment and forensic monitoring arrangements for the pathogen *Cryptosporidium* would remain in place.
 - No advantage is taken of the scope for rationalisation and simplification of the regulations.

Option 2 - Revoke and remake the regulations

11. Entirely revoke and remake the 2000/1 Regulations

We considered whether the 2000/1 Regulations should be entirely revoked and remade as the proposals are the fourth amending instrument for the 2000 Regulations and the second amending instrument for the 2001 Regulations. The advantages would be that an official consolidated text would be produced and drafting consistency ensured.

12. This approach was discounted for the following reasons:

- For the 2000 Regulations, two of the amending instruments were very short. The third instrument made amendments consequential on the setting up of the new water supply licensing regime in 2005. For the 2001 Regulations there has only been one amending instrument in relation to the water supply licensing regime in 2005. Therefore, the existing texts were not unduly complicated.
- Although the devolution arrangements can result in different law applying in England and Wales, as both the Secretary of State and the National Assembly for Wales both instruct the DWI to carry out their drinking water quality functions, a consistent regime across England and Wales is easier to administer. Currently the 2000 and 2001 Regulations are almost identical. If the Secretary of State decided to revoke and remake, consistency could only be ensured if the National Assembly for Wales decided to do likewise, and vice versa.
- The resource implications of revoking and remaking would be substantial within both Defra and Welsh Assembly Government. It is inevitable that different styles and approaches might be adopted by new drafters keen to improve on the existing text. Revoking and remaking the entire 2000/1 Regulations is not simply a question of cutting and pasting from existing law and, in total, across both England and Wales, would involve drafting around 200 pages of law. In addition, DWI's non-statutory guidance on the 2000 and 2001 Regulations would have to be re-written. The use of government resources in this exercise has to be balanced with competing priorities.
- Subject to the changes proposed in this consultation, the water industry and DWI are broadly comfortable with the existing 2000/1 Regulations which have delivered year on year improvements in drinking water quality compliance since their introduction. In 2005 only 0.05% of samples failed to meet relevant mandatory standards across England and Wales. This is the best record across the UK. Other than the changes proposed in this consultation, there would be little benefit in practice from revoking and remaking the entire 2000/1 Regulations as the current law is apparently well understood and compliance is high. Revoking and remaking would inevitably result in drafting changes which would require the water industry, including licensed water suppliers only active since the end of 2005, to retrain staff and update documents. Although there might be benefits of further

increased compliance in due course, it seems likely that the industry costs of consultation and retraining would outweigh this.

- It is anticipated that the Drinking Water Directive may be amended in the medium term. This will require further amendments to UK law and that would be a better time to consider revoking and remaking the 2000/1 Regulations.
- It was decided that we could produce an informal consolidated version for the DWI website as soon as the amendments were made. It was decided that, where practicable, entire provisions in the 2000/1 Regulations would be revoked and remade in this instrument. The majority of the amendments are being made in five regulations and one schedule and the policy thinking behind all but one of these provisions is consistent (risk assessments based on data gathered from the entire network from catchment to consumers' taps leading to better treatment). This makes the instrument much easier to read as a stand alone document.

Option 3 – Make substantive amendments to the 2000/1 Regulations as set out in the consultation document for the major changes (Regulations 3, 4, 6, 8, 15, 16A, 25, 26, 26A, 27, 28, 29, 31 and 33).

13. Substantive amendments are made to the 2000/1 Regulations according to the proposals set out in the Consultation Document for Regulations 3, 4, 6, 8, 15, 16A, 25, 26, 26A, 27, 28, 29, 31 and 33:

- Companies would be required to broaden the scope of their *Cryptosporidium* risk assessments in the catchment supplying each water treatment works to consider all forms of potential danger to human health, setting out the supporting raw water monitoring required to confirm the risk status. This will be in part informed by information from the EA on substances discharged in the catchment.
- The schedule of categories of water for abstraction and treatment requirements in SWAD would be replaced with a more general obligation requiring companies to utilise the above information to determine the appropriate level of treatment at the works thereby safeguarding public health.
- Removal of the forensic *Cryptosporidium* monitoring requirements.

Option 3 a – as option 3 but with the Environment Agency incurring monitoring costs

14. The 2000/1 Regulations are amended as option 3 but without new Regulation 16A:

- Additional monitoring requirements of Article 7 of the Water Framework Directive are met by the EA through utilisation sampling at water company abstraction points. The EA will need to negotiate regular access to water company sites involving co-ordination with pumping regimes, health and safety considerations, additional sampling and laboratory facilities, etc. at a higher cost than to the water companies. It will also represent duplication in many respects of the current raw water monitoring undertaken for operational purposes by the water industry.

Option 4 – As option 3 but with additional rationalisation and simplification of the regulations (Regulations 23, 35 and 36)

15. Removal of unnecessary and duplicative reporting requirements

- Companies would no longer be required to maintain a public register at their offices (Regulation 35(1)) to be available for inspection by the public at all reasonable hours and

free of charge, containing information maintained in accordance with Regulation 34 including the designation of water supply zones, particulars of any authorised departures, particulars of any actions taken or required to be taken by the water undertaker as a result of enforcement action, authorised departures, undertaking or notice relating to a breach of an indicator parameter and the results of regulatory sampling.

- Companies would no longer be required (Regulation 36) to publish an annual report as prescribed in the regulations containing, inter alia: information on the number of water treatment works, service reservoirs and supply points; the number of water supply zones; the number and percentage of samples which contravened a prescribed concentration or value or specification for an indicator parameter; and details of any authorised departures. They would no longer be required to send a copy of the report to each local authority within their area of supply, instead the required information would be provided through DWI in its annual Chief Inspector's Report and from its website.
- Companies would no longer be required to advertise authorised departures and undertakings in all relevant newspapers in the area affected (Regulation 23). DWI has advised that for authorised departures at some water treatment works where the supply is distributed via large trunk mains or service reservoirs, the number of zones potentially affected can be substantial, some of which may only be supplied periodically from that works, and/or a small proportion of the demand is met from there. This is a cost-effective reduction in bureaucracy, which would also potentially allow more people to view the relevant information.
- Removal of administrative elements of the current regulations which have been overtaken by improved electronic data collection and reporting arrangements between the water companies and DWI, and use of company websites.

Table 1: Summary of Options

			Do Nothing	Revoke & remake regulations	Amend regulations	Amend regulations to give compensatory simplification
Regulation	Description	Consequence	1	2	3	4
1, 2, 9, 13, 19, 20 and 24; Sch 1, 2 and 3	Interpretation and definition relating to Water Framework Directive (WFD), sampling points and health authorities etc; correcting drafting and substantive errors and removing otiose provisions.	Minor		Yes	Yes	
4 and 6	Definition of wholesomeness extended to include water supplied in bottles/containers and subject to same monitoring	Minor		Yes	Yes	
3 and 8	Provide for control over use of unrepresentative supply points and clarify water supply zone definition	Minor		Yes	Yes	
15	Requiring authorizations of new sources prior to supply by water undertakers in the same way as water licensees	Minor		Yes	Yes	
New 16A and new Sch 5	Monitoring and risk assessment requirements to compliment introduction of Regulation 26A (treatment requirements). New schedule of substances/frequencies in line with WFD/WHO recommendations	Major		Yes	Yes	
23	Information to be published on website as opposed to newspaper	Minor		Yes		Yes
26	Revoke otherwise unworkable legislation	Minor	Yes	Yes	Yes	
25 & 26A	Replaces (soon to be repealed) SWAD treatment (technology) standards in Regulation 26 with a more general requirement for adequate treatment to protect public health facilitating innovation.	Major		Yes	Yes	
27 and 28	Widens scope of risk assessment that needs to be undertaken - whole catchments focus/all risks (not just Cryptosporidium)	Major		Yes	Yes	
29	Improve regulation of Cryptosporidium to facilitate use of wider range of treatment technologies and reduce the administrative reporting and management burdens	Minor		Yes	Yes	
31	Recovery of costs for new substances/product approvals	Minor		Yes	Yes	
33	Revocation of offences relating to cryptosporidium monitoring and replacement with more general offences in relation to a failure to protect human health and treat (disinfection and treatment Regulations 26A and 28)	Major		Yes	Yes	
35	Removal of duplicative paper record keeping requirements	Minor		Yes		Yes
36	Removal of duplicative reporting requirements for annual reporting/local authorities	Minor		Yes		Yes

Other Potential Options

16. A non regulatory alternative has not been considered in this RIA given the importance of the regulations in terms of protecting public health and the requirements of EC law under the Drinking Water Directive. The amendment of the regulations, as opposed to replacement of the regulations, in combination with rationalisation and simplification is considered to be a significant step towards better regulation in this area.

5 Costs and Benefits

- **Sectors and groups affected**

17. The main sectors and groups affected by these proposals are:

- Water and sewerage undertakers (drinking water business only)
- Water only undertakers
- Licensed water suppliers
- Suppliers to the water industry (only in respect of Regulation 31)
- Providers of outsourced sampling and analysis services
- Water consumers

- **Analysis of costs and benefits**

Benefits

18. All the do something options discussed above have the same general benefits relative to the do nothing option. This relates to the effective continuation of essential public health protection following the repeal of the SWAD. It is impossible to predict the impact of removing these requirements without replacing them. It would be expected that much of the water industry would continue existing practices but without the continuation of regulation there would be no certainty that an adequate level of monitoring, risk assessment and treatment would be maintained. It would be more likely therefore that insufficient risk assessment and monitoring would take place, together with inadequate water treatment. This would result in a greater frequency of outbreaks of water related disease. Water related disease outbreaks involve a huge personal cost to those affected and society in general through sickness, time losses, the provision of alternative supplies, health service costs and general loss of public confidence in drinking water quality.

19. Unpublished costs calculated for one *Cryptosporidium* outbreak amounted to £7.5m direct costs (personal communication Chief Inspector of Drinking Water). As an indication of the very significant public confidence impact of water treatment failures, the accidental addition of aluminium coagulant to the water supply to Camelford in Cornwall in 1988 has been the subject of three major Department of Health independent expert reviews yet public concern and adverse media reports continue unabated 18 years later.

20. The do something options also introduce better more up to date monitoring and risk assessment approaches. They also replace outdated technology based treatment standards with a more outcome based standard relating to the protection of public health. Benefits relating to the fostering of innovation by the industry are likely to arise from these improvements but these are difficult to predict.

Costs

21. Option 1 has almost no additional policy or administrative costs. The do something options all have the same general policy and administrative costs relative to the do nothing option. Options 3, 3a and 4 differ from Option 2 as they are based on amending the 2000/1 Regulations rather than entirely revoking and remaking them. Revoking and remaking the 2000/1 Regulations would be expected to incur considerable additional administrative costs. The additional administrative costs arise because of the greater time and effort that would be required to draft a complete set of replacement regulations as opposed to amending the existing ones. The majority of this cost would probably be on negotiating changes to parts of the 2000/1 Regulations which would not change under options 3, 3a and 4. Rewriting the 2000/1 regulations would “open up” debate about these elements which, while not necessarily perfect, work in practice. These elements of the regulations do not need to change, but it is likely that change would have to be considered if it was decided to replace the 2000/1 Regulations. Revoking and remaking would also incur additional policy costs due to the need industry needing to be involved in a much wider consultation and retraining exercise.

22. Options 3 and 3a differ from option 4 in terms of the inclusion or otherwise of the major simplifying proposals related to regulations 23, 35 and 36.

23. Option 3a differs from Option 3 in terms of who undertakes Water Framework Directive monitoring requirements in relation to drinking water protected areas. These can either be met by the monitoring being carried out by water companies as part of their raw water monitoring for public health protection, operational and investment planning purposes (options 2, 3 and 4) or by the EA separately and in addition to it (option 3a). This would represent significant additional cost and duplication of effort.

24. It should be noted that many of the amendments involve no or negligible change in costs:

- Amendments to Regulations 1, 2, 3, , 9, 13, 19, 20, 24 and to Schedules 1, 2 and 3 are minor clarifications of definitions or tidying up and therefore there are no additional costs associated with this.
- Regulation 8 enables the Secretary of State or National Assembly for Wales (in practice DWI) to authorise the use of supply points (treatment works and service reservoirs) for monitoring of conservative parameters (those which do not change during distribution). A review of the legislation has confirmed that the supply point authorisation process, in conjunction with risk assessment, can be applied to water in its original state (raw water), in conjunction with the widened risk assessment process. This mechanism would enable water companies to shift the balance of their “source to tap” monitoring for certain parameters so that measurements in raw water samples need not be duplicated in treated water samples. This risk based approach to monitoring is consistent with WHO, Drinking Water Directive, and Water Framework Directive principles because it provides water quality information further upstream in the water supply process to support risk management and in terms of limiting raw water deterioration. We have not included an estimate of any potential cost savings from the authorisation of abstraction points as supply points in this document because the outcome of water company risk assessments in respect of each individual parameter is site specific and cannot be predicted in advance. However, the DWI has evaluated existing drinking water data and concluded that there may be at least 6 – 10 parameters which are not present in most water supplies and would therefore be suitable candidates for raw water supply point authorisations. DWI has indicated its intention to provide guidance to water companies on the new interpretation of the supply point authorisation process so that benefits in the form of improved information and removal of duplication of testing for particular parameters can be realised from the risk based approach to “source to tap” monitoring. These expected cost savings and benefits have not been included in the final estimates of cost benefit carried out for this regulatory

impact assessment. The introduction of competition into the water industry (via changes made by the Water Act 2003) means that the number of inputs to a water supply zone is likely to increase in the future and therefore the technical considerations as to whether supply point samples are representative of all the water supplied in a given zone are increased in complexity, involving water quality information derived from more than one party (the water undertaker and the combined licensee). Any increase in administrative and compliance costs as a result of the phased introduction of a restriction on the general supply point authorisation should be offset by the benefits of raw water supply point authorisations.

- Amendments to Regulations 4 and 6 clarify the definition and requirement of companies to sample from bottled water supplies. This applies very infrequently when water cannot be supplied by means of pipe. Water undertakers usually carry out such testing for their own due diligence reasons already.
- Amendments to Regulation 15 formalises the 'acceptance' of new sources, the sampling requirements exist already. There would be a negligible additional cost to the DWI for issuing new notices. It is noted that companies introduce new sources infrequently and so compliance costs will be low.
- Regulation 31. This is a stand alone amendment which reintroduces provision for the Secretary of State and the National Assembly for Wales to charge applicants for approval of a substance or product which reflects the administrative expenses incurred by the Secretary of State or National Assembly for Wales in connection with the application. The provision for charges was contained in the 1989 Regulations but not carried forward in the 2000/1 Regulations because the overall cost of the Regulation 31 approvals scheme had not warranted cost recovery during the 1990's. It involves:
 - A small registration fee in the order of £200 for each application (of which there were 47 during 2005)
 - An additional fee in the order of £200 for applications requiring consideration at one expert committee meeting (CPP) – of which there were 25 in 2005.
 - An additional fee in the order of £400 for consideration at each subsequent CPP meeting – of which 4 would have incurred a total cost of £800 in 2005, and 2 would have incurred a total cost of £1200 in 2005.

These costs apply not to the water industry per se, but to suppliers to the water industry among others, they are not considered to be significant and therefore are not explored further in the cost benefit assessment.

25. As a result the main cost impacts of the proposals are the additional risk assessment and monitoring requirements related to the introduction of Regulation 16A and Schedule 5, and changes to Regulations 25, 26, 26A, 27, 28, 29 and 33 and the cost savings introduced through the simplification of the regulations related to Regulations 23, 35 and 36.

Costs of additional risk assessment and monitoring requirements

26. For the purposes of this RIA, costs have been calculated based on two assumptions:

i) Sampling costs

A nominal additional cost of £20 per sample has been assumed as a maximum to cover additional time on-site, bottles, proportion of on-costs etc.

For the existing monitoring, the maximum number of visits to a site is once per week (52) and therefore 52 x £20 (=£1040 per sample point) has been added to the total costs.

For proposed monitoring, sampling is recommended at ground water sites at a frequency of at least 4 times per year, therefore 4 x £20 has been added to the total costs (£80 per sampling point).

Sampling is recommended at surface water sites at a frequency of up to 12 times per year (depending on population served), therefore 12 x £20 has been added to the total costs (=£240 per additional site).

ii) Analysis costs

Costs for analysis of a number of parameters have been obtained from two laboratories. One is a water company owned laboratory and therefore probably does not contain a margin; the other is an independent commercial laboratory which presumably includes a percentage profit margin within it. For the purposes of this exercise, an average of the two costs for each parameter has been used (Appendix 1, Table 4).

Estimation of current raw water monitoring costs

27. The first step is to assess the current average level of raw water monitoring, and therefore its cost, carried out by the water industry in England and Wales. Water UK and the EA are undertaking a survey of the water industry to establish current raw water monitoring by water companies, the results of which are not yet available. There is no statutory requirement to carry out this sampling and analysis, although it is widely accepted as best practice (1), (2). Information from the DWI who routinely inspect raw water data as part of technical audits and incident assessments indicates that most companies currently monitor a limited range of key indicator parameters in their raw water (Appendix 1, Table 1) in order to inform decisions about the level of treatment, seasonal affects, chemical dosing etc.

28. In her annual report 'Drinking Water 2005, Part 2' (3), the Chief Inspector of Drinking Water reports on current treatment processes in place in England and Wales (table 2.2). For the purposes of estimating a baseline of current raw water monitoring costs it is assumed that best practice results in water companies monitoring raw water at those works with treatment in place for a particular parameter, to make necessary treatment decisions (chemical dosing, etc.) and to demonstrate the efficacy of their process (Appendix 1, Table 2).

29. During the last Periodic Review of Water Prices which was completed in 2004 ("PR04"), companies identified a number of schemes requiring improvement programmes at water treatment works at which the raw water monitoring had indicated an increase in specific parameters which were therefore at risk of failing the Drinking Water Directive standard at some point in the relevant period, 2005-2010 (Appendix 1, Table 3).

30. To estimate current raw water monitoring costs, the existing and proposed sites with treatment for particular parameters have been calculated and multiplied by existing sampling frequencies and analytical costs.

31. Current costs:

- Ground Water: A total current cost of £756K per annum is obtained.
- Surface Water: A total current cost of £299K per annum is obtained.
- Total: the estimate for the total industry' spend on raw water monitoring (England and Wales) is £1,055K per annum.

The assumptions made in the calculations include:

- adherence by most companies to accepted water industry best practice requiring information about raw water quality in order to inform treatment decisions.
- adherence to the monitoring and classification of surface water required by the current SWAD
- average costs for sampling and analysis as outlined above
- the number of works at which monitoring takes place for specific parameters is a combination of those with treatment in place and those identified as at risk of failing.
- actual sampling frequencies obtained by the DWI from two companies are representative of the industry standard

32. Information from DWI technical audit inspections and incident assessments indicates that most companies carry out some form of catchment risk assessment to indicate which parameters may be present in the raw water, and subsequent appropriate raw water monitoring. If any of the above assumptions are incorrect, it could be argued that the figure for current costs is an overestimate. A range of costs is proposed for the purposes of the RIA to account for the possibility that not all of the above assumptions are correct. This proposes that as a maximum the calculations outlined above are up to 50% overestimated.

Therefore the total costs to the industry currently incurred by raw water monitoring are £704K to £1,055K per annum.

Raw water monitoring requirements introduced by the proposed amendments

33. Proposed new Schedule 5 sets out the monitoring requirements proposed. A number of parameters require monitoring at all sites, whereas others will be required at a varying frequency depending on the outcome of the risk assessment and the population served by that works (Table 5). For this exercise monitoring requirements for mixed waters are assumed to be the same as for surface water. This is the more burdensome interpretation; therefore the resulting cost estimates will be a maximum.

34. Additional monitoring requirements for drinking water protected areas under the Water Framework Directive apply to those abstractions from water bodies serving more than 100m³ per day as an average. Information on abstraction licences for public water supplies from the EA show that for ground waters there are approximately 3 per ground water body as an average. The average number of abstraction points for public water supply in each river surface water body is 1.3, and the average number per lake surface water body is 1.0.

The Water Framework Directive drinking water protected areas monitoring frequencies are based on community served by the water body, but it is suggested that the requirements of the proposed new provisions will be applied at each abstraction point in a water body at frequencies depending on the population served by that water body. This ensures that robust data sets are obtained for water serving each water treatment works, including for seasonal variations, to inform treatment decisions and risk assessment. It also removes the need for water companies to liaise with each other and agree sampling programmes where more than one water company boundary draws on the same water body.

35. Costs of the revised raw water monitoring requirements were calculated incorporating the recommended frequencies in new Schedule 5 and applying the risk assumptions and sampling and analytical costs previously used.

- **Ground Water**

In addition to the risk based monitoring assessment, an additional suite of 5 parameters are required to be sampled and analysed once per year by the Water Framework Directive (Annex V, paragraph 2.4.2) at all ground water sites. Analytical costs for the 5 parameters were summed, and a £20 sampling cost added then multiplied up by the total number of works.

At sites for which the risk assessment identifies no significant risk for a parameter, it is proposed that a set of 4 samples taken regularly for most parameters over one year are analysed for that parameter to confirm that it is not present in a substantial quantity. It is then anticipated that monitoring frequencies will be reduced by the Secretary of State or National Assembly for Wales. An estimate has been made of this cost by multiplying the cost of the whole analytical suite of risk parameters (plus 4 x £20 for sampling) by the total number of ground water works. This cost has been spread over the 5 years of an Asset Management Period (AMP) (as an arbitrary time period over which risks tend to be evaluated) – this is the cycle in which the water industry plans

investment requirements and seeks the associated funding through the limits set on customer bills by the economic regulator, Ofwat.

Together, a total cost of the proposed raw water monitoring requirements for ground water works is £270K per annum.

- **Surface Water**

Incorporated in the risk based monitoring assessment are a number of parameters which are required in Schedule 5 to be monitored at a higher frequency than for Water Framework Directive drinking water protected areas purposes in surface water (e.g. *E. coli*) for public health protection purposes (due to the potential variation in source quality and the subsequent impact on operation of treatment processes). For those parameters, the frequencies have been amended appropriately.

At sites for which the risk assessment identifies no significant risk for a parameter, it is proposed that a set of 4 samples taken regularly over one year are analysed for that parameter to confirm that it is not present in a substantial quantity. An estimate has been made of this cost by multiplying the cost of the whole analytical suite of risk parameters (plus 4 x £20 for sampling) by the total number of surface water works. This cost has been spread over the 5 years of an Asset Management Period (AMP) (as an arbitrary time period over which risks tend to be evaluated) – this is the cycle in which the water industry plans investment requirements and seeks the associated funding through the limits set on customer bills by the financial regulator, Ofwat.

Together, a total cost of the proposed raw water monitoring requirements for surface water works is £150K per annum.

- **Total cost**

This gives a total cost estimate of £421K per annum. Due to uncertainties about predicting the outcome of risk assessments of the catchments we have assumed this could be as much as 50% underestimated. A range is proposed for use in this comparison of £421K to £843K per annum.

36. The difference in costs between the estimated current cost of raw water monitoring and that required by the proposed amendments to the 2000/1 Regulations with regard to making statutory the requirement to carry out risk-based raw water monitoring is therefore in the range of :
minus £634K to plus £139K per annum

37. However, it is anticipated that companies will probably continue with their existing raw water monitoring which exceed the minimum proposed therefore the minimum cost impact will be £0.

Removal of *Cryptosporidium* monitoring requirements and revocation of associated offences

38. Under the existing provisions of the 2000/1 Regulations, when water undertakers identify a treatment works as being at significant risk from *Cryptosporidium*, they are required either to initiate daily regulatory monitoring (according to rigid guidelines set out in the regulations) or to implement an improvement programme involving either upgrading the existing treatment process or installation of a physical membrane which secures that the average number of *Cryptosporidium* oocysts per 10 litres of water is less than one. Except where a membrane was installed, the treated water at these sites has to be sampled continuously at a rate of at least 40 litres per hour through an approved collection device which was required to be removed for analysis each day. The 2000/1 Regulations also lay down various other forensic requirements and conditions relating to sampling and analysis. Failure of the water supplier to meet the requirements in Regulation 29 are offences under Regulation 33. It is proposed to revoke Regulation 29 and the associated offences in Regulation 33. This removes burdensome sampling and reporting arrangements and

enables a wider range of treatment options including inactivation of oocysts as well as physical removal.

39. It must be emphasised that this proposal will not undermine the public health improvements that have been put in place since the *Cryptosporidium* provisions were laid down in 1999 for protection against outbreaks of cryptosporidiosis. Under proposed Regulation 27 water undertakers will still have to carry out a risk assessment at each of their treatment works. *Cryptosporidium* will still be a major risk factor for assessment and where it is shown to represent a significant risk, under proposed Regulation 28 water undertakers will still be required to mitigate the risk through action in the catchment or improved treatment or both. Validation monitoring will still be required to demonstrate that the actions are effective whether this is by demonstrating that oocysts are removed from the water stream or that, for example, an effective UV or ozone dose has been applied continuously. Therefore this proposal is very much in accord with the risk based approach of the Better Regulation Executive and of WHO (4, 5).

- **Benefits**

- i) Risk assessment**

40. Regulation 26A will be added which refers to overall risk assessments, compiled through information from the EA and the water companies. We anticipate this will be cost-neutral because existing risk assessments for *Cryptosporidium* and PR04 were comprehensive collectively.

- ii) New sites**

41. It is not anticipated that there will be many new sites identified as at significant risk as a direct result of the amendments because an exercise to review *Cryptosporidium* risk assessments has just been completed for all surface waters and ground waters were last considered in respect of PR04.

- iii) Sites removed**

42. Some sites may be reduced in risk due to the installation of membranes. Historically the vast majority of these have been groundwater sites. 51 sites were reclassified between 1999 and 2005, i.e. 8.5 per annum. However these sites do not require regulatory monitoring either before or after membranes are installed, so they remain cost-neutral as far as the proposed amendment to the 2000/1 Regulations is concerned.

- iv) Existing sites**

43. Most sites which could be abandoned, or converted into raw water monitoring sites have been identified during Asset Management Period 3 (AMP3 2000-2005). Capex costs for the installation of regulatory monitoring equipment (approximately £16,000 per site; Ofwat) will not be recovered as any with existing facilities have incurred this cost already. Cost savings relate to removal of the chain of custody burden, anomaly reporting and possible operational savings relating to reduction in sampling frequency.

- **Surface Water sites**

- Current monitoring costs:**

44. In most cases due to the volume throughput of surface water treatment works, it is not yet cost-effective to install membranes, therefore, as an alternative companies have put in place a programme of regulatory monitoring (involving daily sampling, chain of custody requirements, anomaly reporting etc).

There are 121 surface water sites at significant risk currently. A proportion of these will be due to direct abstraction arrangements or there being less than 7 days bankside storage. The use of this particular risk criterion in guidance is under review and in the future some of these sites may not be classified as being at significant risk. However for this exercise current figures have been used. Ofwat estimate that companies spend £39,000 p.a. per site on operational costs of regulatory sampling if they use an in-house lab, £53,000 if they have to contract out to a lab for analysis.

121 x £39,000 = £4.7m

121 x £53,000 = £6.4m

Future monitoring costs:

45. There may be an opportunity to reduce the frequency of monitoring at sites according to the level of risk from *Cryptosporidium*. Sites at a high risk may need to continue with daily regulatory monitoring, in which case cost savings will result from the removal of aspects of the reporting burden. However at some sites, sampling and analysis may be reduced from daily to a minimum of once per week. Criteria for this adjustment will be clarified in guidance. Therefore the minimum costs incurred will be £674k - £916k per annum.

Total cost saving

46. A maximum saving of £4m - £5.4m per annum for surface water is estimated depending on level of risk at each site.

- **Ground Water Sites**

47. 51 groundwater sites are currently at significant risk. At 23 of these sites membrane filtration has already been identified, for which no regulatory monitoring will be required. The remaining 28 are in the process of being evaluated as regards the best solution. The existing provisions restrict the options available to companies to upgrading of the treatment works or installation of a physical barrier, or continuous regulatory monitoring.

a) Regulatory monitoring

Depending on risk at each site the regulatory monitoring may reduce from daily to a minimum of once per week (the criteria for this assessment will be set out in guidance).

For 28 sites, the cost of daily regulatory monitoring = £1.1m - £1.5m.

This would reduce by a maximum of £936k - £1.3m per annum.

b) Alternative treatment e.g. UV

The proposed amendments introduce an option which allows inactivation of the organism as an alternative to removal.

Submissions made to DWI and Ofwat during PR04 for installation of membrane filtration and ultraviolet treatment during the 5 year period from 2005 – 2010 have been examined. Companies proposed a range of costs (depending on the volume throughput of the works, and in some cases other drivers at the sites). For membrane installation this was between £0.45m and £0.7m per Mld. For installation of ultraviolet treatment this was between £0.06 and £0.1m per Mld.

Therefore the total cost saving attributable to the widening of treatment options compared to installation of membranes is £0.39m - £0.6m per Mld.

The majority of sites at significant risk of *Cryptosporidium* were addressed during AMP3.

Additional water treatment works at significant risk requiring membrane filtration totalling an output of 137.9Mld were identified at PR04. Assuming a similar 'rate' of change of status of works during the next periodic review, then the total cost saving per annum can be estimated if UV is installed instead of membranes:

Cost of membrane installation per annum (137.9/5) = £12.4m - £19.3m

Cost of UV installation per annum (137.9/5) = £1.65m - £2.8m

Total estimated cost saving per annum = £10.75 - £16.5m

Table 2: Summary of savings associated with changes to the *Cryptosporidium* provisions

Proposed amendment	Minimum savings (per annum)	Maximum savings (per annum)
Reduction in frequency of monitoring	£0m	£5.4m

(surface water sites)		
Reduction in frequency of monitoring (ground water sites)	£0m	£1.3m
Use of alternative treatment solutions	£10.75m	£16.5m
Total	£10.75m	£23.2m

Cost savings from reductions in administrative burdens

i) Regulation 23

48. Amendments to the 2000/1 Regulations include a proposal to amend Regulation 23(1) - publicising of authorised departures. The most recent cost estimates were compiled in 2005 by the DWI. The average number of notices that are required currently for each programme of work are:

- average number of press notices (i.e. different publications covering the area affected) per undertaker = 1.34
- actual average cost of each press notice (2002 to 2004) = £1,529.16
- average number of authorised departures granted per year (2005) = 3(*)
- estimate of cost per year of publicising authorised departures for the Industry = £6,147.22

* figure based on only 18 months data as new obligation

ii) Regulations 35 and 36

49. From costs compiled by the industry for 2005(7), the financial benefits to the industry of removing this burden can be estimated:

Table 3: Estimate of financial burden of administrative regulations

Regulation	Cost per annum (£)
35(1)	651.05
35(2)	0
35(3)	190.95
35(4)(a)	40,641.25
35(4)(b)	0
35(4)(c)	0
35(4)(d)(i)	0
35(4)(d)(ii)	0
35(4)(d)(iii)	0
36(1)	0
36(3)	0
Total savings	41,483.25

Overall Summary of costs and benefits

50. The following table summarises the main costs and benefits of the proposals.

Table 4: Summary of costs and benefits

Regulation	Options	1	2	3	4
	Benefits	None	Continued protection of public health following repeal of SWAD		

	Costs and savings				
1, 2, 3, 4, 6, 8, 9, 13, 15, 19, 20, 24 and 31; Sch 1, 2 and 3	Changes to definitions, clarifications, or consolidation of existing practices	None	None or negligible		
16A, 25, 26, 26A, 27, 28, 29, 33; Sch 5	Main proposals for altering the risk assessment, monitoring and treatment requirements	None	Additional raw water monitoring: costs of £0 - £139K per annum. Amendments to <i>Cryptosporidium</i> regulations: savings of £10.75m - £23.2m per annum.		
23, 35 and 36	Reductions in administrative burdens	None	None		£48K
	Additional costs of Option 3a	None	None	Estimated at 43% higher (for EA to undertake) during PR04	None

6 Small Firms Impact Test

51. The amended 2000/1 Regulations will have an impact on costs for water undertakers and may generate reduced pressure on water prices charged to customers. It will similarly have an impact on the costs of licensed water suppliers which have their own treatment works (combined licensees) most of which are small businesses.

Small firms have been identified in each of the sectors affected – the water industry, suppliers to the industry and providers of analytical services. While it is anticipated that the impact on a small firm in any of these categories will be negligible, it is intended that a number will be contacted during the consultation period to confirm this assessment.

7 Competition Assessment

52. Application of the competition filter indicates that a simple competition assessment is appropriate as little or no effect on competition is likely as a result of the proposals.

53. There are currently 24 vertically integrated, incumbent water undertakers in England and Wales. Ten of these provide water and sewerage services, while the remaining 14 provide only water services. In areas where a water only company provides water, a water and sewerage company provides the sewerage service. All 24 companies are statutory undertakers, with duties and responsibilities set out in primary and secondary legislation. Undertakers must also comply with conditions set out in their Instruments of Appointment, including observing price limits set by Ofwat applying to charges for the majority of their customers.

54. Undertakers are appointed for a specific geographic area, and undertake (either directly or sometimes by contracting out) every aspect of the provision of water services, i.e. ownership and control of the operation of abstractions, reservoirs, pumping stations, treatment works and all elements of the public water distribution network.

55. These features of the water industry limit the scope for direct market competition. Ofwat's regulatory regime is incentive based and decisions on price setting are informed by a comparative

competition framework which compares the performance of each company and sets prices on the basis of the best performing company. The effectiveness of the regulatory framework in providing companies with incentives to improve their efficiency and be innovative is generally accepted to be more limited than market competition where that is possible.

56. The Water Act 2003, which received Royal Assent on 20 November 2003 extended the opportunity for competition within the England and Wales water supply industry so that water customers with an annual consumption of at least 50 megalitres are eligible to switch supplier. To date five businesses have applied for a combined licence which will allow them to retail water to customers and introduce water into water undertakers' supply systems for this purpose.

57. Combined licensees will be directly affected by these proposed amendment regulations in a similar way to water undertakers. This is because consequential amendments to the 2000/1 Regulations as a result of the introduction of competition to the industry have already applied many of the relevant provisions in the 2000/1 Regulations to them. If anything, these proposals will benefit these new entrants and ensure a more level playing field by requiring water undertakers to consult DWI before using water from new sources. This reflects the existing standard licence condition already imposed on combined licensees. Retail licensees will have reduced burdens on them in relation to information and reporting requirements. To some degree this may assist market entry.

58. The size and scale of drinking water quality monitoring programmes is directly proportional to the volume of water supplied or population served therefore the burden is distributed equitably. Smaller water undertakers and combined licensees are not subject to a greater relative monitoring burden than larger water undertakers.

8 Enforcement, sanctions and monitoring

59. The enforcement process in the regulations is not fundamentally altered by these amendments. To date the process has been demonstrated to be very effective in respect of delivering benefits to consumers in terms of year on year improvements in drinking water quality as reported annually in the Chief Inspector's Annual Report. A recent House of Lords Select Committee Report on Water Management (6) cited the Drinking Water Inspectorate as being a very successful element of the regulatory framework and cited strongly positive evidence provided by the Consumer Council for Water.

60. In light of experience and in line with Better Regulation aims of Defra and the Welsh Assembly Government, the amendments make some adjustment to the offences in the regulations. It is proposed to remove the specific offences relating to the carrying out of monitoring and treatment for cryptosporidium. DWI has not found it necessary to apply these sanctions to the scientific functions of water undertakers since they were introduced in 1999. A more general offence is introduced which bears directly on the fundamental public health protection requirement of adequately treating and disinfecting water before it is supplied. The offence of failing to comply with regulatory requirements to make necessary improvements in treatment processes is also extended to all risks to human health, in addition to *Cryptosporidium*. Evidence from incident investigations by DWI has demonstrated a clear current need for an effective sanction in respect of the core water supply operational function of water undertakers.

61. DWI will continue to work with water undertakers and combined licensees to seek to prevent any potential danger to human health arising from the public water supply. The wider risk assessment procedures would place the primary duty very much on water undertakers and combined licensees to consider compliance issues holistically. DWI's role would be very much as part of the checks and balances in what should become (if it is not already) embedded in company procedures. DWI will retain the power to take civil enforcement action under section 18 of the

Water Industry Act 1991 for any breaches of duties contained in the Regulations which it uncovers.

62. However, an adequate criminal regime is also necessary because of the serious consequences for public health which would arise if there was a failure to disinfect or adequately to treat the public water supply. The threat of credible criminal sanctions provides further incentives for water undertakers and combined licensees to take the necessary steps to prevent an incident. Prosecutions are also important to make examples of those who engage in bad practice and to ensure that lessons are learnt for the future. The proposed criminal sanctions would not apply in the case of severe civil emergencies (such as terrorist strikes or major natural disasters) and also would not apply if the water undertaker or combined licensee had taken all reasonable steps and exercised all due diligence to avoid the incident. This strikes a fair balance between the public interest and the private concerns of water undertakers and combined licensees.

63. Together with the risk assessment process, the civil and criminal enforcement powers will ensure that an effective *ex ante* compliance programme is in place. It will also ensure that there are adequate means to deal with failures in risk assessment, disinfection and treatment after any incident.

References

- (1) 'Principles of Water Supply Hygiene and technical guidance notes', June 1996; WaterUK
- (2) 'Operational Guidelines for the Protection of Drinking Water Supplies: Safeguards in the Operation and Management of Public Water Supplies in England and Wales'
- (3) Drinking Water 2005, Chief Inspector of Drinking Water
- (4) 'Lifting the Burden', Defra Initial Regulatory Simplification Plan, November 2005
- (5) 'Guidelines for Drinking Water Quality', 3rd Edition, 2004; World Health Organisation.
- (6) House of Lords Report on Water Management June 2006
- (7) Report on administrative burden of existing regulations – not published

Appendix 1 Additional Raw Water Monitoring costs of the proposed amendments

Calculations

Table 1: Estimates of current raw water monitoring by water companies

Parameter	Source type	Frequency	Comment
E Coli	All	At least weekly	As required by SWAD, but required to demonstrate efficacy of treatment/disinfection
Coliform bacteria	All	At least weekly	As required by SWAD, but required to demonstrate efficacy of treatment/disinfection
Turbidity	All	At least weekly	To inform treatment requirements
Conductivity	All	At least weekly	
PH	All	At least weekly	
Colour	All	At least weekly	To inform treatment requirements
Ammonium	All	Fortnightly	
Nitrate	All	Monthly	On average – ground water usually at a higher frequency
Pesticide	All	Quarterly	

Table 2: Current treatment processes installed

Of a total of 1234 works in supply, the following percentages had treatment in place for the parameters listed:

Parameter	Ground water	Surface Water/Mixed Water
Pesticides	9.2	9.6
Nitrate	8	1.4
Solvents	1.8	0.2
Arsenic	2.8	0.2
Lead	0.3	0
Manganese	9.1	12.1
Iron	13.5	13
Colour	1.4	13.5
Taste and Odour	0.6	3.6
Trihalomethanes	1.3	9.2
Bromate	0	0.3

Table 3: Water Treatment Works identified as being at risk of exceeding the standard for a specific parameter during PR04

Parameter	% Groundwater works at risk	% Surface Water works at risk
Arsenic	0	0.97
Bromate	0.33	0
Lead	0.44	0.33
Nickel	0.22	0
Nitrate	7.9	0
Pesticides	1.1	2.9
Colour	0	1.6
Manganese	0.44	2.6

(Sites at significant risk from *Cryptosporidium* are considered elsewhere in this document.)

Table 4: Analytical costs

Parameter	Min cost (£)	Max cost (£)	Average
Arsenic	7.5	9	8.25
Bromate	15	15	15
Lead	3.75	9	6.4
Nickel	9	18.75	14
Nitrate	3	3.75	3.4
Pesticide	26.25	80	53
Colour	3	3	3
Manganese	3	3.75	3.4
PH	1.5	2.5	2
Conductivity	1.5	2.5	2
Ammonium	3	3.75	3.4

Table 5: Populations served by each type of water treatment works

	SW	MW	GW	Total
Pop <10, 000	57	17	392	466
Pop 10,000-30,000	59	12	337	408
Pop >30,000	165	29	153	347
Total	281	58	882	1221

(The total figure varies slightly from the total no. of WTW presented in the CIR (2005) due to works being taken in or out of service at times. This total is as of June 2006.)

Annex B

Definitions from the Water Framework Directive incorporated by reference:

“Body of groundwater” means a distinct volume of groundwater within an aquifer or aquifers.

“Body of surface water” means a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water.

“Groundwater” means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Groundwater status” is the general expression of the status of a body of groundwater, determined by the poorer of its quantitative status and its chemical status.

“Surface water” means inland waters, except groundwater; transitional waters and coastal waters except in respect of chemical status for which it shall also include territorial waters.

“Surface water status” is the general expression of the status of a body of surface water, determined by the poorer of its ecological status and its chemical status.

Related definitions from the Water Framework Directive:

“Aquifer” means a subsurface layer or layers of rock or other geological strata of sufficient porosity and permeability to allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater.

“Coastal water” means surface water on the landward side of a line, every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured⁵⁵, extending where appropriate up to the outer limit of transitional waters.

“Ecological status” is an expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters, classified in accordance with Annex V.

“Inland water” means all standing and flowing water on the surface of the land, and all groundwater on the landward side of the baseline from which the breadth of the territorial sea is measured.

“Lake” means a body of standing inland surface water.

“Quantitative status” is an expression of the degree to which a body of groundwater is affected by direct and indirect abstractions.

“River” means a body of inland water flowing for the most part on the surface of the land but which may flow underground for part of its course.

“River basin” means the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta.

⁵⁵ The relevant baseline, for the purposes of this definition and the definition of “inland water”, is that from which the breadth of the territorial sea is measured and is established by section 1 of the Territorial Sea Act 1987 (c. 49) and the Territorial Waters Order in Council (1965 III, p. 6452A).

“Transitional waters” are bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows.

Annex C

[The draft Water Supply \(Water Quality\) Regulations 2000 \(Amendment\) Regulations 2007](#)

Annex D

[The draft Water Supply \(Water Quality\) Regulations 2001 \(Amendment\) Regulations 2007](#)