

Regulatory Impact Assessment

The Private Water Supplies Regulations (Northern Ireland)

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1. Title of proposal

The Private Water Supplies Regulations (Northern Ireland)

2. Purpose and Intended Effect

Objectives

2.1. To transpose into legislation, implement and enforce Northern Ireland's obligations under European Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption¹ ("The Drinking Water Directive") in respect of private supplies. As a consequence, the current regulations (The Private Water Supplies Regulations (Northern Ireland) 1994²) will be revoked and replaced.

2.2. To protect the health of consumers of private water supplies and consumers of food and drink prepared from private water supplies.

Purpose

2.3. This RIA accompanies the new regulatory arrangements for private water supplies. The purpose of the RIA is to assess the likely impact of the new regulatory arrangements on owners and consumers of private supplies and on public and commercial activities that are affected by private supplies.

3. Consultation

3.1. The Drinking Water Inspectorate (DWI), a part of the NI Environment Agency within DOE, and the policy team in the Department, have liaised and collaborated with their counterparts in Scotland, Wales and England to seek to achieve a consistent approach to policy and to the content of the Regulations. DWI has also liaised with these administrations regarding technical guidance on the proposed Regulations. This guidance entitled "Private Water Supplies Technical Manual" will be updated to include details of the new Regulations and how they will apply in Northern Ireland. This manual is available online.³

3.2. The Department is responsible for implementing the current arrangements and will continue to be responsible for implementing the new arrangements. A partial RIA formed part of the Department's consultation paper on the proposed new regulatory arrangements in order to inform the preparation of this final RIA. No specific comments were received regarding the partial RIA within the public consultation process. However, as a result of comments received during the consultation period, the policy in respect of small shared supplies was revised. This is reflected in this final RIA.

¹ OJ L 330/32 5.12.98

² SR 1994 No. 237

³ http://www.privatewatersupplies.gov.uk/private_water/22.html

4. Options

4.1. This RIA identifies 3 options:

1. **Do nothing**
2. **Full transposition without risk assessment**
 - (a) **excluding small private supplies**
 - (b) **including small private supplies¹**
3. **Full transposition with risk assessment²**
 - (a) **excluding small private supplies**
 - (b) **including small private supplies**

Other potential options

4.2. Implementation by administrative or non-regulatory means, such as guidance or a Code of Practice, would not transpose the Directive into national law and would not achieve the controls and the measures needed to monitor and enforce the Directive's standards and other wholesomeness requirements. The European Commission would not be satisfied by such an approach, and would most likely invoke infraction proceedings to achieve proper transposition. This option is therefore ruled out.

Exemption from the Directive

4.3. The Directive offers a discretionary exemption in relation to an individual supply that provides an average daily volume of less than 10 cubic metres (<10m³/day), or serves fewer than 50 persons, provided the water is not supplied as part of a commercial or public activity.

4.4. Hence, the exemption could apply to an individual supply of <10m³/day, that serves one or more dwellings and is used solely to meet the daily domestic needs of the occupants. However, a supply of <10m³/day could not be exempt if there was any element of commercial (or public) use such as bed and breakfast. Therefore it is not possible to exempt from the proposed Regulations small or medium enterprises (SMEs) who use the private supplies as part of such activities.

Consideration of the three options

Option 1 - do nothing

¹ "Small" supplies includes those which provide <10m³/day, or serving fewer than 50 persons, **except supplies to single private dwellings**

² "Risk Assessment" entails examining elements of a water supply and source to identify the risk of parameters being present, enabling a possible reduction in amount of monitoring

4.5. The current Private Water Supplies Regulations 1994 were intended to transpose the 1980 Directive. They do not adequately transpose and implement the 1998 Directive, primarily because:

- the Directive includes some new and some tighter standards for drinking water quality – there are some new parameters and a number of parameters have been dropped;
- sampling and analysis (“monitoring”) requirements have changed significantly, including new “check” and “audit” monitoring to assess compliance with the standards; and
- The Department has no power or duty to enforce the standards in the current Regulations, and has only a discretionary power in article 3(E) of the Water and Sewerage Services (Northern Ireland) Order 1973 to serve private supply notices that may require owners and occupiers to take remedial action to improve failing private supplies.

Assessment of Risks involved with Option 1

4.6. If nothing is done to improve the quality of private water supplies, including where necessary enforcing drinking water quality standards, many people who rely wholly or partly on private supplies to provide their drinking water will continue to consume drinking water of a quality that could be inferior to the quality of public water supplies. According to the 2007 Report “Drinking Water Quality in Northern Ireland¹” (produced by the Drinking Water Inspectorate), there was approximately a 1% failure rate in 2007 in terms of all chemical parameters tested in private supplies and an approximately 12% failure rate in terms of all microbiological parameters tested (excluding dairy farms). Failure of the microbiological standards represents a risk of illness to persons consuming such water.

4.7. The European Commission is already aware that transposition of the 1998 Directive has not been completed throughout the UK. Unless each administration across the UK makes new regulations that incorporate all the requirements of the Directive, as it applies to private supplies, the Commission may use its Treaty powers to seek judgement at the European Court of Justice to secure compliance by the UK Government with the Directive. This could result in significant fines to the Northern Ireland Executive which would ultimately be paid from the public purse.

4.8. For the reasons given above, it is not feasible for the Department to do nothing and **Option 1** is therefore ruled out.

Option 2 - full transposition **without** risk assessment

2(a) *excluding small supplies*

¹ Report available online at <http://www.ni-environment.gov.uk/water/drinkwater.htm>

4.9. Option **2(a)** would comply fully with the requirements of the Directive. It would involve meeting the Directive's monitoring (sampling and analysis) requirements relating to all supplies that are not allowed to be exempt. The Directive must always apply to all supplies of 10m³/day or more and supplies of less than 10m³/day that are used for commercial purposes, for example food production or catering, or as part of a public activity.

4.10. Option **2(a)** would require the Department to investigate a failure to comply with a standard and to require the owner to take necessary remedial action. At first the Department would try to solve the problem informally. If the owner did not take the required action, the Department would either have to issue an "authorisation", with a programme of remedial action, if the failure was not of a microbiological parameter and/or did not cause a risk to human health; or, in any other case, an "improvement notice", with a programme of remedial action which must be complied with. The Department would also have the power to prohibit a supply of water, or restrict what the water can be used for, in cases where a serious risk to human health is posed.

2(b) including small supplies

4.11. Option **2(b)** is similar to option **2(a)**, the only difference being that it would include the mandatory testing of "small" domestic supplies (<10m³/day, or serving fewer than 50 persons) that supply more than one dwelling. This option goes further than is required by the Directive in the sense that it does not seek to apply fully the discretionary threshold below which smaller supplies may be exempt. Action in respect of supplies to single private dwellings would be solely to offer advice if requested to do so.

4.12. Option **2(b)** will ensure that users of small private supplies enjoy a similar degree of health protection as consumers of larger private supplies or those which provide water for use in a commercial or public activity.

Assessment of Risks involved with Option 2

4.13. Options **2(a)** and **2(b)** do not involve risk assessments. Consequently, failures of supplies to comply with the standards will normally only be detectable by routine monitoring under the proposed Regulations. The routine monitoring of the majority of private supplies will be infrequent and as such the water quality outside of these sampling occasions will be unknown and this may present a risk, especially during periods of heavy rain when it is known that the water quality of such supplies can be compromised and could pose a risk to health.

Options 3(a) and 3(b) propose that this risk is offset by the inclusion of risk assessments which will lead to earlier detection of at-risk supplies and will demonstrate quickly the cause of a problem, resulting in earlier implementation of remedial action.

Option 3 - full transposition **with** risk assessment

3(a) *excluding small supplies*

4.14. Option **3(a)** would comply fully with the requirements of the Directive. This option goes further than is required by the Directive because it includes risk assessments. The Directive allows parameters to be excluded from “audit” monitoring when it can be demonstrated that they are unlikely to be present at concentrations that would contravene the standards. Carrying out risk assessments and taking the findings into account will help the Department assess whether to reduce the overall amount of monitoring and the information obtained from risk assessments will help the Department to identify where failures are likely to occur. Furthermore, risk assessments will also assist the Department when investigating failures and when reaching decisions on appropriate and proportionate remedial action.

3(b) *including small supplies*

4.15. Option **3(b)** is the same as option **3(a)**, except that it would include the shared small supplies. Therefore this option both goes further than option **3(a)** and further than is required by the Directive.

Assessment of Risks involved with Option 3

4.16. Options 3(a) and 3(b) include risk assessments, which will lead to earlier detection of at risk supplies, resulting in earlier implementation of remedial action.

4.17. Both Options 2 and 3 will place a general duty on the Department to enforce the requirements of the proposed Regulations. As per the Directive, in respect of supplies to single private dwellings, it is proposed the Department will offer appropriate advice to the owner/user of the supply.

5. Cost and benefits

Sectors and groups affected

5.1. The Department will implement the monitoring and other requirements of the proposed Regulations.

5.2. The proposed Regulations will primarily affect those with responsibility for ensuring that their private supplies meet the required standards. These are usually the owners of the land or of the private supply, or any other persons who exercise powers of management or control.

5.3. The sectors liable to be affected will include groups of dwellings that are served by the same private supply, food production undertakings, and any catering businesses, including establishments or dwellings where bed and breakfast facilities are provided, other recreational and holiday premises such as hotels or guest houses.

Numbers of private water supplies

5.4. Of the 111 private water supplies currently registered with the Drinking Water Inspectorate, 18 are small domestic supplies serving more than one dwelling. The consultation paper on the proposed Regulations put forward the proposal to include a power to monitor these small shared supplies only if considered appropriate to do so. However, following the responses received during the consultation period and based on health grounds, this policy was revised to propose mandatory sampling of small shared supplies. The costs for this have been taken into account in this RIA and are likely to be lower than for larger or commercial supplies, because it is proposed that small supplies are monitored by a decreased suite of parameters and in accordance with a risk assessment. 78 of the 93 commercial supplies are small or medium sized businesses. The remaining 15 are larger commercial businesses.

Cost

5.5. The Department is responsible for discharging the functions and duties under the proposed Regulations. The costs for monitoring private water supplies in Northern Ireland are met from the public purse.

5.6. In the following sections the total costs for options 2(a), 2(b), 3(a) and 3(b) are calculated and compared with the costs for option 1 and the extra cost over option 1.

Option 1 (Do nothing)

5.7. The current costs for the monitoring (sampling and analysis) of private water supplies are based on the number of monitoring visits for each supply. A breakdown of the current costs is available in Appendix 1. The total annual current cost is £110,450.

Options 2(a) and 2(b) (without risk assessments)

5.8. The main costs associated with the proposed Regulations will be:

- the maximum cost of a sampling visit
- the maximum cost of carrying out, or arranging to carry out, the analysis (note the full monitoring requirements have to be carried out under these two options)
- the new cost of carrying out investigations into a failure to determine the cause and the appropriate remedial action
- the new cost of preparing and serving an “improvement notice”
- the new cost of preparing and serving a “restriction notice”

- the new cost of preparing, consulting upon, issuing and reviewing an authorisation
- the cost of any steps the Department itself takes under an improvement notice.
- Administrative Costs

5.9. Annual maintenance costs for source protection, collection chambers, treatment and distribution have not been included. Such costs may arise from, for example, cleaning collection chambers, replacing filters or UV lamps, or repairing burst pipes. Annual maintenance costs are difficult to estimate but are likely to be small compared to the annual costs of monitoring.

Options 3(a) and 3(b) (with risk assessments)

5.10. The main costs will be:

- the new cost of carrying out, or arranging to carry out, risk assessments
- the maximum cost of a sampling visit [**note** that it will be possible to achieve savings by carrying out the sampling and some or all the work associated with a risk assessment during the same visit]
- the maximum cost of carrying out, or arranging to carry out, the analysis [**note** that the findings of a risk assessment in conjunction with a previous history of compliance for individual parameters at predetermined levels may allow a reduction in the number of parameters for audit monitoring and therefore reduce the costs]
- the new cost of carrying out an investigation to determine the cause of a failure and the appropriate remedial action
- the new cost of preparing and serving an “improvement notice”
- the new cost of preparing and serving a “restriction notice”
- the new cost of preparing, consulting upon, issuing and reviewing an authorisation
- the cost of any steps the Department itself takes under an authorisation.
- Administrative Costs

5.11. A breakdown of the estimated costs for options 2 and 3 is available in Appendix 1. A summary of costs and benefits is given at the end of this section.

Benefits

General approach

5.12. Estimates of the benefits of the options have been informed by the partial Regulatory Impact Assessment (RIA) (March 2005) ¹ and by the final RIA² published with the draft and final Scottish Regulations respectively. The RIAs were informed by, and developed from, a report of a study carried out on behalf of the Scottish Executive by EnviroCentre, Glasgow ³. This also formed the basis for the recently published Impact Assessment of Draft Private Water Supplies (England) Regulations 2008. A breakdown of the estimated benefits is available in Appendix 1.

Option 1 - do nothing

5.13. No benefits.

Option 2 - full transposition **without** risk assessment

Option 2(a) (excluding small supplies)

5.14. The main benefit of option 2(a) will be to ensure that the 93 private water supplies used for commercial purposes in Northern Ireland will be wholesome and safe for human consumption.

Option 2(b) (including small supplies)

5.15. The additional benefit for option 2(b) will be to ensure similar protection for 18 small private water supplies serving more than one dwelling. This will result in reduced numbers of adverse health impacts, including transmission of waterborne pathogens, among the populations who depend on, or who make occasional use of, private supplies.

Option 3 - full transposition **with** risk assessment

5.16. Options 2(a) and 2(b) do not include risk assessments. Without risk assessment, failures of supplies to comply with the standards for wholesomeness and other requirements will normally only be detectable by monitoring. Risk assessments will lead to earlier detection of potentially

¹ The Draft Private Water Supplies (Scotland Regulations 2005 and Proposals for a Private Water Supplies Grant Scheme – A Consultation issued in March 2005.

² Final Regulatory Impact Assessment, The Private Water Supplies (Scotland) Regulations 2006, issued in April 2006.

³ Economic Assessment in Support of the Partial Regulatory Impact Assessment for Possible Regulations for Private Water Supplies and Public Buildings in Scotland, the Scottish Executive Central Research Unit 2004.

failing supplies and to earlier implementation of remedial action, therefore the benefits will be achieved over a shorter timeframe.

Options 2 and 3

5.17. The quantifiable health benefits from options 2(a), 2(b), 3(a) and 3(b) are avoiding loss of income, loss of economic activity, medical treatment costs and morbidity through avoidance of illness associated with consumption of contaminated water from private supplies. A breakdown of the estimated quantifiable benefits is available in Appendix 1. There are also a number of other benefits that are not quantifiable but are recorded in Appendix 1 qualitatively – these include economic competitiveness for commercial supplies, public confidence; value for money by avoiding costly prosecutions; property enhancement; and increased awareness of water and environmental quality.

Comparison of Summary Costs and Benefits

5.18. A comparison of the estimated additional costs (over option 1) and estimated value of benefits for options 2(a), 2(b), 3(a) and 3(b) are presented in the table below. The present value of costs and benefits are discounted over 15 years at 3.5%. Note that these are the quantifiable costs and benefits and there are also some costs and benefits that it was not possible to quantify.

Estimated additional costs and benefits

Option	Costs £	Benefits £
2(a) – excluding small supplies without risk assessment	285,795	1.04m
2(b) – including small supplies without risk assessment	336,732	1.06m
3(a) – excluding small supplies with risk assessment	- 71,221	1.87m
3(b) – including small supplies with risk assessment	1,172	1.91m

5.19. The present value of the annual and one-off costs of option 3(a) is negative because the annual costs are less than for option 1. For all options the estimated value of the benefits greatly exceeds the estimated additional costs. When risk assessment is included for commercial supplies (option 3(a) compared to option 2(a)) and for all supplies (option 3(b) compared to option 2(b)) the differences between the estimated benefits and the additional costs increases by over £1m (commercial supplies [$£1.87m - \{-£71,221\}$] - [$£1.04m - £285,795$] = $£1.19m$ and all supplies [$£1.91m - £1,172$] - [$£1.06m - £336,732$] = $£1.18m$). Although the cost savings for option 3(b) (i.e. risk assessment including small supplies) are not as high as the savings for 3(a)

the overall benefits which are mainly health related are higher, therefore it is proposed to pursue this option.

6. Enforcement, sanctions and monitoring

6.1. The Department will be responsible for implementing and enforcing the monitoring and other requirements of the new Regulations. The owners of the land or the private supply where the problem arises will need to implement any remedial action required to meet the revised drinking water quality standards. The Regulations will make it an offence for an owner of the land or a private supply to fail to comply with an “improvement notice” or a “restriction notice” issued by the Department. On summary conviction for an offence under the proposed Regulations, a person would be liable to a fine or imprisonment not exceeding three months, and on conviction on indictment, to a fine, or imprisonment not exceeding two years.

6.2. The Department will monitor and review the operation of the Regulations on a regular basis and will amend them as required to reflect changes in European legislation (the Directive is likely to be reviewed within the next 5 years) and practical experience of their operation.

7. Summary and Recommendation

7.1. This report presents the findings of the Regulatory Impact Assessment which has been undertaken in relation to the Private Water Supplies Regulations (Northern Ireland) 2009. It identifies the costs and benefits of three options, namely:

- do nothing;
- full transposition of the 1998 Drinking Water Directive (this option also assesses both scenarios of either excluding or including “small” shared domestic private supplies); and
- full transposition of the 1998 Drinking Water Directive with Risk Assessment (again assessing the 2 scenarios of either excluding or including “small” private supplies)

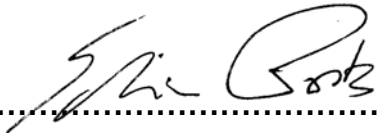
7.2. On the basis of the analysis it is concluded that option 1 is not viable and that the Directive should be transposed.

7.3. Having assessed the costs and benefits, the option which the Department would recommend is option 3(b) – full transposition of the Directive with Risk Assessment and including “small” private supplies. This option would result in an estimated additional cost of £1,172 per year, with an estimated benefit of £1.91m. The use of risk assessments, as recommended by the World Health Organisation, is a proactive measure to identify potential hazards and to prevent or control risks involved. As has been shown in the analysis of costs and benefits, the use of risk assessments should decrease costs involved by demonstrating which parameters do not require to be monitored, and maximise potential benefits. The inclusion of small domestic supplies

serving more than one dwelling will ensure that the people consuming water from this small number of private drinking supplies will have their health safeguarded.

8. Declaration

I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs.

Signed:.....

Date:24/11/09.....

Edwin Poots MLA
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Appendix 1 to RIA: Detail of Costs / Benefits

Costs

Option 1: Current Costs

The current costs for the monitoring (sampling and analysis) of private water supplies are based on the number of monitoring visits for each supply. The cost per visit is currently £75 for sampling. The cost for analysis of tests is dependent on the parameters being tested at each visit – the total costs per category of supply is shown in the table below. An average of £71 per monitoring visit is estimated for transport and administration (this includes the costs of delivery and collection of sample bottles, transportation to the laboratories and project management of the contract). The annual costs for monitoring per current category of supply and the total annual costs are shown in table 1 below.

Table 1

Category	Number of Supplies in NI	Total Annual Cost for Sampling	Total Annual Cost for Analysis	Total Cost for Administration
2.1	1	1800	1875.63	1704
2.2	14	12600	22624.98	11928
2.3	31	9300	14240.78	8804
2.4	42	6300	9690.24	5964
2.5	5	375	56.65	355
1E	18	1350	203.94	1278
Sub Total	111	31725	48692.22	30033
Total				110,450.22

Options 2 and 3: Estimated Costs

Annual maintenance costs for any additional (over option 1) source protection/collection, treatment and distribution again have not been included, for example cleaning collection chambers, replacing filters or UV lamps or repairing burst pipes. These annual maintenance costs are unlikely to change significantly under the new Regulatory regime and are likely to be small compared to the annual costs of monitoring.

Tables 2(a) and 2(b) summarise the estimated costs of options 2(a) and 2(b), and Tables 3(a) and 3(b) summarise the estimated costs of options 3(a) and 3(b). The costs for monitoring and risk assessments have been revised following feedback from UK local authorities during the public consultation phase, and this is reflected in the costs below.

The Tables also show the additional costs for each of the 4 options (2(a), 2(b), 3(a) and 3(b)) compared to option 1 (do nothing).

Table 2a (Option 2(a))

Additional costs for commercial supplies – without risk assessments

Item	Unit cost	Calculation	Cost
Sampling visit	£100	15 x 4 for largest supplies + 49 x 2 for medium supplies 29 x 1 for small commercial supplies = 187 visits	£18,700/a
Check analysis	£100	15 x 4 for largest supplies + 49 x 2 for other large supplies + 29 x 1 for small commercial supplies = 187 analyses	£18,700/a
Audit analysis	£500	64 x 2 for large/medium supplies + 29 x 1 for small supplies = 157 analyses	£78,500/a
Investigation –	£100 for visit plus limited analysis	Assume 10% fail in year 1, 5% fail in year 2 etc – approximates to 20% failing in total = 19 failing supplies	£1,900 one-off
Improvement and restriction notices	£100 each	Assume 75% fail for microbial parameters = 14 restriction notices. Assume 50% of these are solved by informal negotiation and other 50% require improvement notices = 7 improvement notices Total notices = 21	£2100 one-off
Authorisations	£100	Assume other 25% require authorisation = 5 authorisations	£500 one-off
Remedial action	£2,000 average	For 19 failing supplies	£38,000 one-off
Administration	£80	187 sampling visits	£14,960/a
Total			£130,860/a £42,500 one-off
Option 1			£110,450
Extra cost Option 2(a) Over option 1		Annual costs	£20,410/a
		One-off costs	£42,500
		Present value of these costs discounted over 15 years at 3.5%	£285,795

Table 2b (Option 2(b))

Additional costs for small supplies – without risk assessments

Item	Unit cost	Calculation	Cost
Sampling visit	£100	18 x 1 for small supplies = 18 visits	£1,880/a
Small supplies analysis	£25	18 analyses (assumes no additional analyses required)	£450/a
Investigation	£100 for visit plus limited analysis	Assume 20% fail in year 1, 10% fail in year 2 etc – approximates to 40% failing in total = 7 failing supplies	£700 one-off
Improvement and restriction notices	£100 each	Assume 75% fail for microbial parameters = 5 restriction notices Assume 50% of these are solved by informal negotiation and other 50% require improvement notices = 3 improvement notices Total notices = 8	£800 One-off
Authorisations	£100	Assume other 25% require authorisation = 2 authorisations	£200 One-off
Remedial action	£750 average	For 7 failing supplies	£5250 One-off
Administration	£80	For 18 small supplies	£1440/a
Total for small supplies			£3,690/a £6,950 One-off
Total for commercial supplies		<i>[See Table 2a]</i>	£130,860/a £42,500 One-off
Total for all supplies			£134,550/a £49,450 One-off
Option 1		<i>[For sampling and analysis only]</i>	£110,450
Extra cost Option 2(b)		Annual costs	£24,100/a
		One-off costs	£49,450
		Present value of these costs discounted over 15 years at 3.5%	£336,732

Table 3a (Option 3(a))

Additional costs for large supplies – with risk assessments

Item	Unit cost	Calculation	Cost
Risk assessment	£500	93 risk assessments every 5 years	£46,500 total £9300/a
Sampling visit	£100	15 x 4 for largest supplies + 49 x 2 for medium supplies 29 x 1 for small commercial supplies = 187 visits	£18,700/a
Check analysis	£100	15 x 4 for largest supplies + 49 x 2 for other large supplies + 29 x 1 for small commercial supplies = 187 analyses	£18,700/a
Audit analysis	£250	64 x 2 for large/medium supplies + 29 x 1 for small supplies = 157 analyses Assumes that risk assessment reduces substantially number of parameters to be monitored to halve cost	£39,250/a
Investigation	£100 for visit plus limited analysis	Assume 10% fail in year 1, 5% fail in year 2 etc – approximates to 20% failing in total = 19 failing supplies	£1,900 one-off
Improvement and restriction notices	£100 each	Assume 75% fail for microbial parameters = 14 restriction notices. Assume 50% of these are solved by informal negotiation and other 50% require improvement notices = 7 improvement notices Total notices = 21	£2,100 one-off
Authorisations	£100	Assume other 25% require authorisation = 5 authorisations	£500 One-off
Remedial action	£2,000 average	For 19 failing supplies	£38,000 One-off
Administration	£80	For 187 sampling visits	£14,960/a
Total			£100,910/a £42,500 One-off
Option 1			£110,450
Extra cost Option 3(a)		Annual costs	- £9,540
		One-off costs	£42,500
		Present value of these costs discounted over 15 years at 3.5%	- £71,221

Please note that the extra annual cost is negative because option 3(a) costs less than option 1.

Table 3b (Option 3(b))

Additional costs for small supplies - with risk assessments

Item	Unit cost	Calculation	Cost
Risk assessment	£500	18 risk assessments for small supplies every 5 years	£9,000 total £1800/a
Sampling visit	£100	18 x 1 for small supplies = 18 visits	£1800/a
Small supplies analysis	£25	18 analyses (assumes risk assessment does not reduce requirements and no additional analyses required)	£450/a
Investigation	£100 for visit plus limited analysis	Assume 20% fail in year 1, 10% fail in year 2 etc – approximates to 40% failing in total = 7 failing supplies	£700 one-off
Improvement and restriction notices	£100 each	Assume 75% fail for microbial parameters = 5 restriction notices Assume 50% of these are solved by informal negotiation and other 50% require improvement notices = 3 improvement notices Total notices = 8	£800 one-off
Authorisations	£100	Assume other 25% require authorisation = 2 authorisations	£200 one-off
Remedial action	£750 average	For 7 failing supplies	£5,250 one-off
Administration	£80	For 18 sampling visits	£1440/a
Total for small supplies			£5490/a £6950 one-off
Total for large supplies		<i>[See Table 3a]</i>	£100,910/a £42,500 one-off
Total for all supplies			£106,400/a £49,450 one-off
Option 1			£110,450
Extra cost Option 3(b)		Annual costs	- £4,050/a
		One-off costs	£49,450
		Present value of these costs discounted over 15 years at 3.5%	£1,172

Please note that the extra annual cost is negative because option 3(b) costs less than option 1.

Benefits

The benefit assessment model employed in the EnviroCentre report has been used, which gives an estimate of the financial benefits of introducing the new regulations. Applicable figures for numbers of supplies etc. in Northern Ireland were applied.

The model calculates the number of people likely to get ill assuming each exposure has a risk of contracting illness, and the numbers are based on the number of people utilising supplies (domestic and commercial); the sample failure rate for the supply class; and an estimated illness contraction rate of 1%.

The EnviroCentre model calculates the total cost of supply failures from the following estimates (the estimated costs have been increased by 8.3% to allow for inflation since 2003 when the costs for the Scottish study were obtained): a loss of income based on an average daily wage of £94.61; a loss of productivity based on an estimated 30% of daily wage reflecting the overall economic loss per work day lost; an estimated illness reporting rate of 10%; an estimated duration of illness of 2 days; the average cost of treatment of £162.45 per illness taking account of travel, doctor's time and treatment; and decrease in quality of life when affected by illness (£54.15 per illness).

The Benefit model calculates the cumulative benefit over 15 years based on assumptions of the resulting improvements due to the regulations, and discounts the benefits over 15 years at 3.5%.

When assessing health benefits in Northern Ireland it was decided to exclude supplies to single private dwellings because the Department will only offer advice to owners/users of such supplies, if requested to do so.

Option 2: without risk assessments

Using the EnviroCentre model, there is an estimated health benefit of £1.04m for option 2(a) over option 1, and an estimated health benefit of £1.06m for option 2(b), which includes small supplies, over option 1.

Option 3: with risk assessments

Using the EnviroCentre model, there is an estimated health benefit of £1.87m for option 3(a) over option 1, and an estimated health benefit of £1.91m for option 3(b), which includes small supplies, over option 1.

Table 4 below summarises the relevant factors considered for the options and the corresponding quantifiable and qualitative benefits associated with them.

Table 4 - Benefits summary for the proposed Regulations

Factor	Benefit
Health - reduction in failing supplies (options 2(a), 2(b), 3(a) and 3(b))	<p>Fewer people being exposed to failing supplies, leading to reduced risk of contracting illness from unwholesome water (for example an <i>E. coli</i> infection from a private supply may be easily spread amongst children or the elderly who may have little or no resistance to <i>E. coli</i>).</p> <p>Reduced visits to GPs and requirement for medical treatment.</p> <p>Reduced cost burden on local industry, commerce and health service.</p> <p>Based on the contraction and reporting rates for illness in the EnviroCentre report from existing failing samples from private water supplies, these health benefits have been estimated as up to £1.04m and £1.06m (options 2(a) and 2(b) respectively) and £1.87m and £1.91m (options 3(a) and 3(b) respectively) over 15 years discounted at 3.5%.</p>
Economic competitiveness (options 2(a), 2(b), 3(a) and 3(b))	<p>Commercial activities that depend upon a consistent, good quality water supply (e.g. tourist related, food production) can encourage repeat business, and avoid the costly risk of failure.</p> <p>Increased commercial opportunities to suppliers of water treatment systems and local tradespersons to undertake upgrading of supplies.</p>
Public confidence (options 2(a), 2(b), 3(a) and 3(b))	<p>Options 2(a) (commercial supplies) and 2(b) (including small supplies) will through the remedial action and enforcement scheme improve protection to users of these supplies respectively.</p> <p>The use of risk assessments (options 3(a) (commercial supplies) and 3(b) (including small supplies)), the changes in parameters being monitored and the remedial action and enforcement scheme will improve further the protection to users of these supplies respectively.</p> <p>With a satisfactory source protection, water treatment and distribution system, there will be a reduced likelihood of failure and therefore people becoming ill and adversely affecting confidence in the water supply.</p>
Value for money (avoid costly prosecutions) (options 2(a), 2(b), 3(a) and 3(b))	<p>It will be more cost effective to require improvement to the source, treatment or distribution of a failing supply than to prosecute owners who refuse to take remedial action.</p>
Impact on development (property) (options 2(a), 2(b), 3(a) and 3(b))	<p>The quality of water supplied to existing properties will continue to be monitored and improved where necessary. This may enhance property prices when the owners can demonstrate that their private supplies are wholesome (increasingly prospective purchasers are asking about quality of private supplies). Note that remedial action in relation to an unwholesome supply to single private dwelling is discretionary.</p> <p>No new restrictions on development if proposed in the area served by a private supply.</p>
Availability	<p>Information on failing supplies, and the reasons why they are failing, will</p>

information (options 2(a), 2(b), 3(a) and 3(b))	lead to a greater awareness and a more efficient management system, reducing future risk of failure (options 3(a) and 3(b) mainly, but also to a lesser extent for options 2(a) and 2(b)).
Social justice (options 2(a), 2(b), 3(a) and 3(b))	Monitoring, remedial action and, if necessary, enforcement to require compliance with wholesomeness standards will apply to only commercial failing private supplies (options 2(a) and 3(a)) and to all supplies (options 2(b) and 3(b)) with local discretion in relation to a supply to a single private dwelling. Social justice is greater with options 2(b) and 3(b) as all consumers will get advice and the same degree of health protection.
Environmental Quality Mainly options 3(a) and 3(b)	The use of risk assessments leading to improved management at the source of a private supply will also create conditions for improvements in the quality of the surrounding environment (mainly options 3(a) and 3(b), such as avoiding pollution of water bodies.
Rural impacts Mainly options 2(b) and 3(b)	<p>Most private supplies are in rural areas, where the benefits will apply, particularly improved health (the value of the health benefits is estimated above) and quality of life.</p> <p>Less potentially long journeys to seek medical treatment.</p> <p>Increased awareness will lead to local knowledge building because risk assessments are likely to place increased emphasis on the education of owners, managers and users of private supplies, enhancing self-regulation and management, with greater potential for transferring and acquiring knowledge.</p> <p>These are greater for options 2(b) and 3(b) with local discretion in relation to a supply to a single private dwelling.</p>
UK benefits (options 2(a), 2(b), 3(a) and 3(b))	Measures that meet effectively the general obligations, and that may go beyond the basic requirements of the Directive, should not only confer substantive health benefits, but should also minimise or reduce the risk of the European Commission bringing a case against the UK Government in the European Court of Justice.

Appendix 2 to RIA: Impact Assessment Screening

All policies need to be proofed or have their impact assessed against a wide range of criteria. The table below shows the results of a screening exercise for each impact assessment. The results of the necessary impact assessments are included after this table.

Impact Assessment	Required?
Crime	X
Community Safety & Victims	X
Equality	X
Health	X
Human Rights	X
Rural Proofing	✓
Social Inclusion	X
Economic Appraisal	X
Economic Impact Assessment	X
Small Firms Impact Test	✓
Competition Assessment	✓
State Aid Compliance Assessment	X
Environment Assessment	X
Strategic Environmental Assessment	X

Appendix 3 to RIA: Rural Proofing

Rural Proofing is a process to ensure that all relevant Government policies are examined carefully and objectively to determine whether or not they have a different impact in rural areas from that elsewhere, because of the particular characteristics of rural areas. Where necessary, it may involve deciding if policy adjustments should be made to reflect rural needs and in particular to ensure that, as far as possible, public services are accessible on a fair basis to the rural community.

Northern Ireland has a legal obligation to comply with the requirements of the European 1998 Drinking Water Directive (98/83/EC), the purpose of which is to protect human health from adverse effects resulting from contamination of water intended for human consumption. This RIA accompanies the Regulations which have been drafted for the purpose of implementing the 1998 Directive. These regulations will replace the existing Private Water Supplies Regulations (Northern Ireland) 1994.

The majority of private water supplies are in rural areas serving rural communities or rural businesses.

For a private supply to a single private dwelling (there are approximately 3000 such supplies in Northern Ireland), the proposed regulations will have no effect other than the owner or occupants receiving advice regarding their private supply.

A small supply to a rural community of two or more houses but serving less than 50 people, that is used solely for domestic purposes and not part of a commercial or public activity shall be monitored once per year for a decreased suite of parameters. This frequency may be decreased to once every five years, dependent on the result of a risk assessment. There are 18 such supplies in Northern Ireland, and these are monitored under the current Private Water Supplies Regulations (Northern Ireland) 1994.

The owner of any private water supply that is used for commercial purposes (such as a bed and breakfast or food producer) has to meet the standards in the Directive as there is no exemption permitted. There are currently 93 such supplies in Northern Ireland of varying sizes. A minimum of one check¹ and audit² monitoring (sampling and analysis) is proposed each year, depending on the size of the supply. The use of risk assessment should enable the number of parameters in audit monitoring to be reduced. These businesses may have to pay the one-off cost of any treatment that is necessary to comply with the standards and safeguard the health of the occupants/visitors and the

¹ Check Monitoring must be carried out at least once a year to confirm that the water in a supply is wholesome. Some parameters will only be monitored in certain circumstances but the suite of parameters under check monitoring cannot be reduced even if compliance is met.

² Audit Monitoring provides further detail about the quality of a water supply. Parameters from audit monitoring may be excluded if it is shown that the concentrations in a supply are unlikely to exceed the prescribed values.

quality of the products. There will also be the cost of maintaining any treatment equipment.

In assessing the impact on rural areas, it has been noted that the majority of private water supplies are in such areas of Northern Ireland. There will be no different impact through these regulations on private supplies which are in rural areas and those which are not. Therefore, it is concluded that it is not necessary to make any adjustments to policy to reflect rural needs.

Appendix 4 to RIA: Small Firms Impact Test

A small business is defined as having fewer than 50 employees; and no more than 25% of the business owned by another enterprise (which is not a small business); and either less than £4.4 million annual turnover; or less than £3.18 million annual balance sheet total. The proposed Regulations will affect all businesses that rely wholly or partly on private supplies for drinking water or for water used in food production. Many of these are likely to be small businesses. However, the proposed Regulations are likely to have a similar effect on small and large businesses, relative to size. Small businesses are likely to use less water than large businesses and the cost of any necessary remedial action is likely to be approximately proportionate to water used. It is concluded that overall the proposals are not likely to have a disproportionate impact on small businesses.

Appendix 5 to RIA: Competition Assessment

It may be expected that the impact associated with the proposed Regulations may put businesses that rely on private supplies at a disadvantage to businesses that use public supplies because of the possible costs to businesses associated with, where necessary, improvements to private water supplies. However, businesses that rely on public water supplies have to pay for the costs of meeting the public supply regulations through their water bills and this includes the costs of improvements. The impact of the proposed Regulations for private supplies should eventually be offset by increased public confidence in the quality of products, particularly food and drinks prepared from private supplies. It is concluded that there will be no significant competition effects.

Appendix 6 to RIA: Public and Community/Voluntary Sectors

Given that the proposal is quite specific in nature the analysis reveals that it is unlikely to have any substantial impact on the public, community or voluntary sectors. The main impacts will be beneficial in terms of protecting the health of consumers of private water supplies.