

Title: The Private Water Supplies (England) (Amendment) Regulations 2018 IA No: Defra2079 RPC Reference No: RPC17-DEFRA-3960(1) Lead department or agency: Defra Other departments or agencies: Drinking Water Inspectorate (DWI)	Impact Assessment (IA)	
	Date: 16/04/2018	
	Stage: Final	
	Source of intervention: EU	
	Type of measure: Secondary legislation	
	Contact for enquiries: Louise Hunt - Defra Policy - 02082 258467	
	Summary: Intervention and Options	
RPC Opinion: GREEN		

Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANDCB in 2014 prices)	One-In, Three-Out	Business Impact Target Status
-£3.24m	-£10.68m	£1.1m	Not in scope	Non qualifying provision

What is the problem under consideration? Why is government intervention necessary?

In light of scientific and technical progress, the World Health Organisation (WHO) has updated their guidelines for drinking water supply which lays down internationally recognised principles on which the production, distribution, monitoring and analysis of parameters in drinking water is based. Council Directive 98/83/EC (the Drinking Water Directive (DWD)) has been amended to align with the WHO principles. To safeguard the quality of drinking water in England, it should be monitored and analysed in line with the WHO principles. Current principles for monitoring and analysis are laid down in the Private Water Supplies (England) Regulations 2016. The legislation will therefore require amendment.

What are the policy objectives and the intended effects?

- Update legislation to reflect the amendments made to the DWD by Commission Directive (EU) 2015/1787 (Directive 2015/1787) which will safeguard the quality of drinking water and ensure a consistent risk based approach is applied across England. Standardising the risk based sampling and analysis of private water supplies (PWS) will allow local authorities (LAs) to identify and concentrate on higher risk supplies whilst ensuring that public health protection is not compromised.
- Examine and, where necessary, revise the level fees LAs can charge for monitoring PWS which will enable full cost recovery and ensure LAs fulfil their regulatory duties.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

To introduce the changes, current legislation will require amendment. As there are no alternatives to regulation, the viable policy options are:

0. Do nothing - this is counter to UK preferred policy and if we fail to transpose we will be in breach of our obligations under EU law, thus giving rise to a risk that the Commission will pursue infraction proceedings for non-transposition; or,
1. Transpose Directive 2015/1787 in full with no further amendments; or,
2. (Preferred) Transpose Directive 2015/1787, incorporating wording/clarification amendments, including revising the level of fees LAs charge.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 06/2021

Does implementation go beyond minimum EU requirements?		No		
Are any of these organisations in scope?	Micro Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)		Traded: N/A		Non-traded: N/A

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.

Signed by the responsible Minister: _____ **David Rutley** _____ **Date** 14th June 2018

Summary: Analysis & Evidence

Policy Option 1

Description: Transpose Commission Directive (EU) 2015/1787 in full with no further amendments

FULL ECONOMIC ASSESSMENT

Price Base Year 2017	PV Base Year 2017	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -4.80	High: -1.68	Best Estimate: -3.24

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.3	1	0.5	4.8
High	0.3		0.5	4.8
Best Estimate	0.3		0.5	4.8

Description and scale of key monetised costs by 'main affected groups'

LAs need to collate sufficient data to support a risk based approach with the costs involved being charged to PWS owners/users of £1.55m per year for 3 years of which £1.3m is to businesses and £0.25m is to operators of public buildings (households are exempt from the monitoring regime to which the risk assessment is applied so, unless they have requested monitoring of their supply, will not incur any costs). LAs and DWI will incur costs of £0.3m in year 1 to establish the new process.

Other key non-monetised costs by 'main affected groups'

PWS owners/users may want to familiarise themselves with the changes in requirements during the first year of implementation. However, this is not a requirement and very few are expected to do so.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0		0.0	0.0
High	0		0.4	3.1
Best Estimate	0		0.2	1.6

Description and scale of key monetised benefits by 'main affected groups'

Following the new risk assessment we estimate a reduced level of monitoring being required. A reduction in monitoring means a reduction in LA charges, leading to savings of about £0.27m a year (in the years after the transition period) to PWS owners/users, of which £0.22m to business and £0.05m to public sector.

Other key non-monetised benefits by 'main affected groups'

Updating the regulations will ensure a consistent risk based approach is applied across England.

Key assumptions/sensitivities/risks

Discount rate (%)

3.5

We assume LAs will choose to collate the necessary data to support a cost-effective risk based approach and that the extra samples will be taken during regulatory site visits. The costs for performing a full suite of parameter tests have been estimated. There is a risk that, as this option does not revise the level of fees to enable full cost recovery, the quality of service provided by LAs could be effected with an increased risk to public health.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m:
Costs: 0.4	Benefits: 0.1	Net: -0.2	

Summary: Analysis & Evidence

Policy Option 2

Description: Transpose Commission Directive (EU) 2015/1787, incorporating wording/clarification amendments, including revising the level of fees charged by LAs.

FULL ECONOMIC ASSESSMENT

Price Base Year 2017	PV Base Year 2017	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -4.80	High: -1.68	Best Estimate: -3.24

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.3	1.4	13.1
High	0.3	2.4	21.4
Best Estimate	0.3	1.4	13.1

Description and scale of key monetised costs by 'main affected groups'

As Option 1 plus additional LA fees, to allow full cost recovery, for owners/users of PWS of £1m (£0.8m for businesses and £0.2m for public buildings).

Other key non-monetised costs by 'main affected groups'

Maximum of 5 lines

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0.0	1.4	11.4
High	0.0	1.9	16.6
Best Estimate	0.0	1.2	9.9

Description and scale of key monetised benefits by 'main affected groups'

Removing the maximum level of fees LAs can charge for monitoring and analysing PWS will allow LAs to fully recover the costs incurred. The cost to PWS owners/users shown above would be revenue to LAs.

Other key non-monetised benefits by 'main affected groups'

As with Option 1 plus public health protection will be maintained with more certainty if LAs are better able to recover full costs. Other amendments to the Regulations will provide accuracy and clarification and incorporate legislative changes which are already included in guidance. They will also provide LAs with the powers to perform corrective work in the interest of protecting public health.

Key assumptions/sensitivities/risks

Discount rate (%) 3.5

As with Option 1, although the risk to service quality and public health, from absence of full cost recovery, will no longer remain.

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m:
Costs: 1.3	Benefits: 0.1	Net: -1.1	

Evidence Base

1. Introduction

A private water supply (PWS) is any water supply which is supplied to a property that is not provided directly by a water company. About 1% of the population of England use a PWS. Most of these supplies are situated in remote, rural parts of the country and can originate from a range of sources including; boreholes, natural springs, and watercourses.

Although improving, figures from the Drinking Water Inspectorate annual report “Drinking Water 2016 – Private water supplies in England” (which can be found [here](#)) reveal that 4.2% of tests on PWS failed to meet the standards (compared to only 0.04% of tests on water provided by water companies). A number of supplies failing the standards are of unsafe microbiological quality, with 7.4% of samples containing *E. coli* and 7.9% containing Enterococci. This means that the water supply in those cases is contaminated with faecal matter and there is a risk that harmful pathogens will also be present.

Role of Local Authorities (LAs) in regulating PWS

LAs act as the regulators for PWS and have a number of statutory duties under the Private Water Supplies (England) Regulations 2016. These Regulations place a duty on LAs to maintain a record of PWS in their area and then to conduct a risk assessment of each such PWS to determine compliance with drinking water standards. PWS are categorised into three groups:

- Regulation 8 supplies are where the water is ultimately supplied by the water company (water undertaker) and is then further distributed by a person other than the licensed water company. These are generally lower risk supplies. LAs only need to monitor the parameters identified as a risk in the risk assessment;
- Regulation 9 supplies are generally large PWS distributing more than 10m³ per day or supplies that are part of a commercial or public activity. They need to be reported to the European Commission and have a more comprehensive monitoring requirement than Regulation 8 or 10 supplies. They are monitored at a frequency dependent on the volume supplied by the PWS in m³/day and for a limited suite of parameters (‘check monitoring’) and less frequently for all other parameters (‘audit monitoring’). At the moment, parameters within the check monitoring suite can be reduced but to no less than once per year based on risk whilst parameters within the audit monitoring suite can be completely omitted from monitoring based on risk. Advice from the Secretary of State is that this should be based on results from the last two years and show levels to be 50% or 75% of the standard (depending on the parameter). However, some LAs are not taking this advice into account and are reducing monitoring where standards are either constant or significantly lower or if it considers that the parameter is unlikely to be present. This provides for differing criteria between LAs. Regulation 9 supplies also include single (domestic) supplies i.e. household, but these are only monitored at the request of the PWS owners/users; and
- Regulation 10 supplies are any that are not covered by regulation 8 or 9 supplies e.g. small, shared domestic supplies. LAs must monitor 5 parameters at least every 5 years, plus anything extra identified as part of a site risk assessment. If the supply is identified as a risk, the sample frequency for specific parameters may be increased.

PWS that serve single (domestic) dwellings i.e. they are not a shared supply (Regulation 10) and are not tenanted (Regulation 9), are a subset of Regulation 10. If the owners of these supplies have not asked their LA to monitor their supply, they are exempt from any sampling or monitoring (unless, on the very rare occasion, a LA believes the supplies are at a high risk of contamination and will sample/monitor to protect human health).

The LA has powers under the Regulations to require that a supply is improved by the person(s) who control the supply. The Regulations also require LAs to provide PWS monitoring data to the Drinking Water Inspectorate (DWI).

Role of DWI in regulating PWS

The DWI is the competent authority for ensuring drinking water quality in England is maintained. The DWI provides independent reassurance that private water supplies in England are safe and drinking water quality is acceptable to consumers. The DWI also has a statutory role to act as technical advisors

to LAs in relation to the implementation of the Private Water Supplies Regulations. This includes the provision of technical and scientific advice on all aspects of drinking water quality, including on PWS.

Regulations governing PWS

Council Directive 98/83/EC (the Drinking Water Directive (DWD)) concerns water intended for human consumption and sets out the standards and requirements for drinking water. This Directive is transposed into national regulations and enforced in respect of PWS in England through the Private Water Supplies (England) Regulations 2016.

The Water Industry Act 1991, the primary national legislation, defines the powers and responsibilities of LAs in relation to PWS.

2. Problem under consideration

The World Health Organisation (WHO) has developed the water safety plan approach which is based on risk assessment and risk management principles, laid down in its Guidelines for Drinking Water Quality. Those Guidelines, together with standard EN 15975-2 concerning security of drinking water supply, are internationally recognised principles. The specific conditions to perform the monitoring of parameters at appropriate frequencies and the range of monitoring techniques has been reviewed in light of scientific progress and the DWD amended accordingly by Commission Directive (EU) 2015/1787 (Directive 2015/1787). To safeguard the quality of private drinking water supplies, the Private Water Supplies (England) Regulations 2016 should be amended.

Introducing a new approach to risk assessment

Directive 2015/1787 updates the monitoring programme in the DWD by introducing a new approach to risk assessment. Where a water supply needs to conform to a monitoring programme, if the new approach is applied, it allows the frequency of sampling and analysis to be reduced or stopped. As Regulation 9 supplies (large supply, commercial activity or public building) are the only supplies which need to conform to a monitoring programme, the changes relating to risk assessment will only apply to them. This equates to about 6,300 of the total 39,400 PWS in England.

Once the amendments relating to risk assessment in Directive 2015/1787 come into force, the only way to reduce/cease monitoring of certain parameters within the monitoring regime is to have sampling data, that has been collected at regular intervals over a period of at least 3 years, the results of which must all be less than 60% of the parametric value for a reduction in monitoring and must all be less than 30% of the parametric value for cessation of monitoring. As this is different to the current risk standards being applied (explained in the 'introduction' section), LAs will need to increase their monitoring, to gather the comprehensive data, to justify future lower level routine monitoring. This means the vast majority, but most likely all, of LAs will need to collect data over a minimum of 3 years to meet the new requirements. If they don't, the full monitoring programme will always need to be performed. However, there will be a cost involved in introducing the new risk based approach as well as gathering a minimum of 3 years' worth of sampling data.

Fees LAs can charge for monitoring PWS

LAs charge fees to owners or users of PWS to recover the costs for the monitoring and analysis of their PWS. The activities they can charge for include: risk assessment, sampling, investigating (when a sample fails) and analysing the sample for both 'check' and 'audit' monitoring parameters. LAs set their charging policies which are capped at a maximum. During a previous consultation, and subsequent stakeholder engagement which included email communication, workshops and use of a Dialogue App* (summarised in annex 2), it was established that the current maximum levels of fees, set in 2010 for each activity, are in some instances insufficient to cover costs for undertaking mandatory monitoring and analysis.

LAs budgets and resources are stretched in this area therefore there is a risk that, if fees were not revised, work in this area could be de-prioritised. De-prioritising this work could result in staff reductions. This, in turn, could have a detrimental impact on the quality of the safeguarding function delivered by LAs. Therefore, the risk to public health for consumers of PWS would increase. This is a concern that LAs articulated during stakeholder engagement.

* Dialogue App is an online discussion and crowd sourcing tool that allows you to engage with stakeholders to shape early policy development, obtain evidence and discuss ideas).

3. Rationale for intervention

The quality of private drinking water is monitored by LAs in order to protect public health and safeguard the welfare of individual consumers. The economic case for this intervention is based partly on the positive externalities (benefits for the general population) of preventing water-borne illness reaching any individual. In addition there is the equity or “merit good” consideration that every individual deserves to receive wholesome water as a basic necessity, whether or not they are in a position to appreciate what that involves and demand it from their supplier. A public system provides assurance to water consumers about the safety of water supplied to them both in their own home and in other commercial or public premises. Particular characteristics or parameters of the supply are monitored, for example specified bacteria and metals within the water that are potentially harmful in high concentrations.

Introducing a new approach to risk assessment

The revised Annex II of the DWD provides for standards setting by establishing the criteria under which risk assessed decisions are made. As explained in the ‘problems under consideration’ section, the approach being introduced is different to the current approach. As explained in the ‘introduction’ section the advice available for applying the current risk approach is being applied inconsistently which has resulted in a monitoring variation from one LA to another. Setting standards that establish the criteria under which risk assessed decisions are made will enhance confidence in the protection of public health through further assurance for the quality of PWS. In providing for a consistent approach, it will also enhance confidence at national level (DWI and the Secretary of State for Environment, Food and Rural Affairs) in the robust nature of the risk assessments being undertaken.

Comprehensive monitoring and analysis incurs significant costs, especially where a large number of parameters need to be considered. Flexible monitoring presents potential cost-saving opportunities. For example, it will reduce the collection of data (that provides little or no information on the quality of drinking water) but protects public health by targeting high risk supplies. Adopting the new risk assessment will allow for more effective use of LA resources which will ultimately reduce LAs costs.

Improvements in the method of analysis and characteristics of different parameters

The revised Annex III of the DWD provides the specifications for the method of analysis of different parameters in light of scientific and technical progress. To provide laboratories with sufficient time to adapt to the proposed changes (which is to an “uncertainty of measurement” (UoM) approach) the methodology under the amendments for Annex III will not come into force until 1 January 2020. The current method of analysis of different parameters can continue to be used until 31 December 2019.

To ensure that no samples are contaminated during monitoring, any samples that are taken, handled, transported and stored must be in accordance with either EN ISO/IEC 17024 or EN ISO/IEC 17025 (or another equivalent standard accepted at international level). Any samples that are analysed must be in accordance with EN ISO/IEC 17025 (or another equivalent standard accepted at international level).

Fees LAs can charge for monitoring PWS

Revising the level of fees that can be charged for activities undertaken by LAs e.g. risk assessment, investigating where a sample fails, etc, will ensure that LAs continue to fulfil their regulatory duties.

Section 77(4)(d) of the primary legislation (The Water Industry Act 1991) provides for the recovery by a LA of the expenses reasonably incurred by the authority whilst carrying out their regulatory duty. The secondary legislation (Private Water Supplies (England) Regulations 2016) imposes a maximum charge, which originally would have allowed full cost recovery, therefore to revise the level of fees the regulation will require amendment to align to that intent.

LAs possess a general power of competence which stipulates that they should only charge the necessary amount to recover expenses incurred and apply rigour when establishing the charges for the activities involved. They are subject to external annual audits that will check their charging policies and within each authority Chief Finance Officers are responsible for the proper administration of financial

affairs. This should therefore instil confidence in PWS owners/users that LAs will only charge for the expenses incurred.

4. Policy objectives

The objectives are to:

- Update legislation to be aligned with the updates of the latest WHO principles for the sampling and analysis of PWS and ensure a consistent risk based approach is applied across England; and
- Examine and, where necessary, revise the level of fees LAs can charge which will ensure that LA costs are recovered appropriately from beneficiaries of their monitoring service.

5. Description of options considered

The suggested options are as follows:

Option 0 - Do nothing. This is counter to UK preferred policy and would be a missed opportunity to update our drinking water legislation in the light of scientific and technical progress. Failure to transpose would also be in breach of our obligations under EU law, thus giving rise to a risk that the Commission will pursue infraction proceedings for non-transposition.

Option 1 - Transpose Commission Directive (EU) 2015/1787 in full with no further amendments. This would meet the main objective of updating legislation to be aligned with the latest WHO principles for the sampling and analysis of private drinking water supplies and ensure a consistent risk based approach is applied across England.

Option 2 - Transpose Commission Directive (EU) 2015/1787, incorporating wording/clarification amendments, including revising the level of fees LAs can charge. The same as Option 1 but, in addition, it would revise the regulatory scale of fees, allowing LAs to recover their costs in full from the owners and users of PWS. It would also incorporate other wording/clarification amendments, including:

- Updating out of date references to other Regulations;
- Including an option to reduce the monitoring frequency where a radioactive substance is naturally occurring and stable;
- Revising the wording of Regulation 18(2)(d) to clarify what 'restore the quality of the water supply' means e.g. provide and maintain a wholesome water supply at all times; and
- Add the power for LAs to carry out remedial works in default to the notices in Regulation 18 which is an option available in Section 80 of the Water Industry Act 1991.

6. Costs and benefits of each option

Throughout this section, where the numbers of supplies, sampling visits, parameters being tested, etc, have been quantified, the figures/data has been extracted from the Chief Inspector of Drinking Water - Private Water Supplies in England 2015 annual report which can be found [here](#). NB: The 2016 annual report was not available when figures within this document were calculated for the consultation stage.

Option 0 – Do Nothing (Baseline).

The costs and benefits of this option have not been assessed but it provides the reference case for assessing the costs and benefits of other options.

Option 1 - Transpose Commission Directive (EU) 2015/1787 in full with no further amendments.

Monetised costs to owners/users of Regulation 9 PWS (for introducing a new approach to risk assessment)

As mentioned in the 'problems under consideration' section, unless LAs implement the risk based approach introduced by Directive 2015/1787, for Regulation 9 supplies (large supply, commercial activity or public buildings), they will need to revert to a comprehensive monitoring programme. We have

therefore assumed all LAs will want to monitor based on risk and collate the necessary sampling and analysis data which will take a minimum of 3 years to collect.

The data needed to move to the new risk based approach has to be based on the requirements of the DWD (pre Directive 2015/1787), therefore, the number of samples being taken during each visit needs to be increased and a full suite of parameters tested. The expenses incurred to gather the data will only relate to having to test the full suite of parameters which will be offset against a saving on the number of site visits. LAs are currently performing a greater number of PWS site visits than required. This may be due to the LA performing a site visit for check monitoring and another site visit for audit monitoring when in fact they can be performed at the same time.

DWI calculates that the monitoring programme required during a three year risk assessment period would consist of 6,029 sampling visits a year (this includes PWS that need to be visited more than once per year), each providing samples for analysis of the full suite of 59 parameters (one of these parameters covers 'pesticides' where the specific tests vary from one supply to another as only pesticides likely to be present need be monitored). This compares with 8,091 visits a year currently, each testing for 19 parameters on average. Annex 1 gives further detail of the pattern of parameter numbers currently assessed and the required increases. Based on DWI information, the typical cost of analysing a full suite of parameters is £500, with analysis being performed by qualified laboratories who charge LAs for the services used. The cost for testing particular parameters separately is not known, so it is assumed that the current analysis cost is £8.47 per parameter on average (£500 divided by 59). There is no reason to believe that analysis for those parameters currently tested is more or less complex or expensive than the average for the suite. The current average analysis cost is therefore estimated at £161 (£8.47 times 19). The average cost of a sampling visit, which is performed by LAs and is the time taken to collect the sample for the laboratory plus any overhead costs, is estimated at £100. This gives a baseline cost per year under current practice of £2.11m (8,091 visits times £261 total visit plus analysis cost). The monitoring cost under option 1 would rise to £3.62m (6,029 visits times £600 total visit plus analysis cost), a net increase of £1.5m.

Changing the number of parameters tested involves no time or activity for the PWS owner/user. The vast majority of time and activity is delivered by the laboratories. LAs incur minor costs as staff will spend time processing the extra sampling results, a cost which can be recovered from PWS owners/users. This has been estimated to cost £14 per sample tested for the full suite of parameters, compared to £4.50 now, an increase of around £50,000 a year during the risk assessment period.

As LAs are obliged to recover the expenses incurred this will cost owners/users of PWS £1.55m per year for three years. The charge is made to the "relevant person(s)", a term defined in section 80(7) of The Water Industry Act 1991 as either the owner or occupier of the premises supplied or the person on whose land the source arises.

Of the £1.55m, approximately £1.3m will be charged to businesses and £0.25m to public buildings. The percentage split has been calculated using the number of commercial and public Regulation 9 supplies as detailed in Annex 1.

Reducing the number of visits would involve a very minor time saving for the owner/user in some cases (to agree the sample date and allow the LA inspector access) but this is considered a negligible benefit and not costed here.

Monetised costs to LAs

To embed and familiarise themselves with the new risk based approach in year 1 it is estimated that one person for five days per LA will be required at an average full economic cost of £45,000 a year (210 effective days). The average was derived from information provided by LAs during engagement on the level of fees. As there are approximately 260 LAs involved in PWS sampling in England, the total cost to LAs will be £0.28m.

Monetised costs to technical advisors (DWI)

The DWI will be involved in a number of tasks throughout year 1 which will include attendance at project management meetings and updating guidance for LAs. It is envisaged a G7 FTE at a full economic cost of £75,000 a year (210 effective days) will be required for about 60 days at a total cost of £20,000.

Non-monetised costs to owners/users of Regulation 9 PWS

PWS owners and/or users may want to familiarise themselves with the changes in requirements during the first year of implementation. However this is not a requirement and very few are expected to do so.

Monetised benefits to owners/users of Regulation 9 PWS

We expect that the collation of sampling data for moving to the new risk based approach should demonstrate that the risk based approach currently used by LAs (although not consistently applied across England) is broadly appropriate if not always fully cost effective. Although the current regime may prove to be fairly accurate, once Directive 2015/1787 is transposed, LAs will be required to comply with the new risk based approach in line with the latest WHO principles.

Therefore, in year 4, a “worst case” assessment would be that LAs revert to current sampling and monitoring levels with no long term costs savings. At the other end of the range, a realistic “high savings” estimate would be that the lower monitoring frequencies in the Directive would prove to be adequate involving the smaller suite of parameters currently sampled. The cost saving would be 2,062 visits at £270.50 (the extra site visits LAs are performing compared to the number required multiplied by the cost of current sampling (£100) and smaller suite of tests (£161) and processing the results (£9.50)). This equates to £0.55m a year which owners/users of PWS would not be charged of which about 80% would fall to businesses (as before). We do not have enough information to determine what the most likely situation (the best estimate) is, and therefore estimate that it falls between the low (£0) and high scenarios (£0.55m), at around £0.27m a year.

Non-monetised benefits to all main affected groups

Updating the regulation to be aligned with the latest WHO principles for the sampling and analysis of private drinking water supplies will safeguard the quality of drinking water. It will ensure the correct parameters are being tested for and apply a consistent risk based approach across England.

Summary of impacts for option 1 compared to baseline

Summary of impacts £million undiscounted		% on business	Year									
			1	2	3	4	5	6	7	8	9	10
Costs												
Cost to LAs and DWI		0%	0.30									
Additional monitoring		80%	1.55	1.55	1.55							
Benefits												
Reduction in annual monitoring	Best Est.	80%				0.27	0.27	0.27	0.27	0.27	0.27	0.27
	Low					0.00	0.00	0.00	0.00	0.00	0.00	0.00
	High					0.55	0.55	0.55	0.55	0.55	0.55	0.55

Option 2 - Transpose Commission Directive (EU) 2015/1787, incorporating wording/clarification amendments, including revising the level of fees LAs can charge.

The costs and benefits outlined in option 1 will also apply to option 2 with the addition of:

Monetised costs to all owners/users of PWS (for fees LAs can charge for monitoring PWS)

The maximum fee threshold LAs can charge for a variety of PWS activities will be removed. Primary legislation (The Water Industry Act 1991) permits the recovery of the expenses reasonably incurred by the LA, therefore maximum fees do not need to be set in secondary legislation (the Private Water Supplies (England) Regulation 2016). Removing the maximum amount from the face of the legislation will allow LAs, in all instances, to fully recover the costs incurred when monitoring PWS. It will also remove the need to regularly revise the fees due to rising laboratory costs, inflation, etc. Her Majesty's Treasury (HMT) are content with this approach.

LAs set their charging policies for each activity they perform, which can be less but, at the moment, no more than the maximum fee. As LAs have not evaluated their charging policies based on the removal of

the maximum fee and as it was not feasible to complete a granular assessment per LA, we have used data gathered via Dialogue App to help quantify what we anticipate the increases in costs to be. The Dialogue App asked LAs to indicate a preferred maximum (see Annex 3). An option for removing the cap was not provided at the time.

The high cost case assumes that PWS fees (in all cases) would be required to be raised to the higher rate to cover full LA costs. As indicated in Annex 3 this would be £1.93m per year. For the best estimate (which is the same as the low cost case), we have assumed that for around 50% of cases LAs costs would not exceed the current rates, and therefore there would be no additional charges incurred. For the other 50% of cases LAs would charge rates higher than what they charge now, based on full cost recovery. In these cases, PWS owners/users will incur additional charges. It is therefore estimated that PWS owners/users will incur an additional cost of approximately £1m per year.

Using the same business/public split as detailed in Annex 1, this breaks down into an approximate cost of £0.8m to business and £0.2m to public organisations (although all types of supplies will be affected, not just Regulation 9 supplies). These are not new economic costs but represent a transfer between owners/users and the LAs, so the cost here exactly equals the benefit to LAs below.

Breaking that down individual PWS owners/users could see an increase/decrease of:

Regulation 8 supplies

Service/activity	Current maximum fee (£)	Estimated higher fee (£)	Difference (£)
Risk assessment	500	500	0
Sampling	100	100	0
Investigation	100	250	150
Analysing a sample taken during check monitoring	100	100	0
Analysing a sample taken during audit monitoring and monitoring for radioactive substances	500	500	0

Regulation 9 supplies

Service/activity	Current maximum fee (£)	Estimated higher fee (£)	Difference (£)
Risk assessment	500	700	200
Sampling	100	100	0
Investigation	100	250	150
Analysing a sample taken during check monitoring	100	110	10
Analysing a sample taken during audit monitoring and monitoring for radioactive substances*	500	600	100

*Monitoring radioactive substances will cost £1000 but as this is estimated to only effect 1% of Regulation 9 supplies it has not been included.

Regulation 10 supplies

Service/activity	Current maximum fee (£)	Estimated higher fee (£)	Difference (£)
Risk assessment	500	300	-200
Sampling	100	100	0
Investigation	100	250	150
Analysing a sample taken under Regulation 10	25	25	0

Monetised benefits to LAs

Removing the maximum level of fees that LAs can charge for monitoring and analysing PWS will allow LAs to fully recover the costs incurred. This will provide revenues to LAs of around £1m a year (£1.93m a year in the high cost rate).

Non-monetised benefits to all main affected groups

Allowing LAs to fully recover the costs incurred will maintain service quality, thereby maintaining protection to public health. LAs have indicated (see Annex 2) that should they continue to lose money for monitoring and analysing PWS, the activity could be marginalised due to budget/resource constraints.

Other amendments that will be incorporated into the Regulations, for the most part, will provide accuracy and clarification. Requirements of another directive (2013/51/EURATOM) are being included to allow a monitoring frequency reduction if a radioactive substance is naturally occurring and stable. This is already included in guidance and will therefore not achieve any savings. The amendment to Regulation 18, concerning notices, has been considered following a response to the Drinking Water Regulations 2016 consultation undertaken last year. The change will give LAs powers to perform corrective work in the interest of protecting public health. LAs currently serve other notices that contain these powers, therefore, time is not required for familiarisation and there are no other additional costs to any party.

Summary of impacts for option 2 compared to baseline

Summary of impacts £million undiscounted		% on business	Year									
			1	2	3	4	5	6	7	8	9	10
Costs												
Cost to LAs and DWI		0%	0.30									
Additional monitoring		80%	1.55	1.55	1.55							
Increase in fees	Best Est.	80%	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
	Low		0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
	High		1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93
Benefits												
Reduction in annual monitoring	Best Est.	80%				0.27	0.27	0.27	0.27	0.27	0.27	0.27
	Low					0.00	0.00	0.00	0.00	0.00	0.00	0.00
	High					0.55	0.55	0.55	0.55	0.55	0.55	0.55
Increase in fees	Best Est.		0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
	High		1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93
	Low		0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97

7. Risks and assumptions

The following assumptions have been made when compiling this Impact Assessment:

- That LAs will adopt the new risk assessment approach and collate the regulatory data, rather than having to revert to a comprehensive monitoring programme;
- That laboratories will either absorb the costs to change the performance characteristics the samples are assessed against to an “uncertainty of measurement” (UoM) methodology, or that costs will be absorbed into the charges for public supply. The time for laboratories to familiarise themselves with the new process and perform some minor rewrites to procedures is expected to be minimal. Laboratories for public water supply, which accounts for 99% of drinking water supply in England, also need to adopt the new method;
- The costs to undertake a full suite of tests (£500) and that the parameters tested are of equal cost (£8.47);
- That LAs will only undertake 1 sampling visit to perform check and audit monitoring requirements;
- The £100 charge for a sampling visit includes the estimated cost of certification of samplers to either EN ISO/IEC 17024, EN ISO/IEC 17025 or and accepted equivalent. Estimates are £300 per person every 3 years with approximately 3 LA staff needing certification to take, handle, transport and store the samples. This equates to £900 per LA every 3 years which should be able to be absorbed within the current maximum (see Annex 3); and,

- The rate that LAs will charge, should the maximum limits be removed, and the amount of times the higher costs will be charged.

A risk, previously articulated by LAs, was:

- Should the level of fees that LAs can charge for undertaking the monitoring of PWS not be revised, there is a risk that the quality of service provided will be affected thereby increasing the risk to public health for consumers of PWS.

A 6 week consultation was held between 12 September and 24 October 2017 and 48 LAs responded. With regard to the risks and assumptions in this document, the following comments were made:

- Of the LAs that answered, nearly 50% confirmed they would adopt the new risk based approach. The remainder did not say they wouldn't adopt it but commented that they already assess via a risk based approach and the new approach was too excessive. However, when the amending regulations come into force, LAs wanting to continue to sample and analyse based on risk can only do so if they meet the new risk assessment criteria. One LA noted that a comprehensive sampling regime may still be required in premises such as hospitals and schools;
- Although no laboratories responded to the consultation, six LAs had contacted their laboratories who had confirmed they were happy (in principle) with the proposed changes to methods of analysis and that they believed the laboratory would absorb the cost of changing to a UoM approach;
- LAs provided a range of between £360 and £800 for the costs to undertake a full suite of tests. Our estimate of £500 (as a national average cost) therefore appears reasonable;
- 10% of LAs stated that they perform separate sampling visits and would continue to do so as they either: wanted to capture seasonal changes to the supply, or thought it was not appropriate where failures and re-sampling/investigation is required. As the Directive allows checks to be performed together, and the Impact Assessment is used to capture regulatory costs, the savings will be costed based on all LAs performing both types of checks within one visit;
- The cost to certify a sampler as compliant to either EN ISO/IEC 17024, EN ISO/IEC 17025 or an equivalent standard was not specifically raised. As the scheme that will certify the samplers is yet to be rolled out, responses revolved around timings and clarification. Prior to consultation, £300 for certification was agreed as 'reasonable' between the DWI and United Kingdom Accreditation Service (UKAS);
- Five LAs noted that, should the maximum limits be removed, even if they were to raise their costs it would not be to the level estimated (at least not in the short term), but did not provide alternative figures. One LA also thought it was unlikely that 50% of authorities would increase to the costs outline straight away. As the costs associated with the removal of the maximum limits have been thoroughly explored via a Dialogue App (see 'problems under consideration' section) the estimated figures will continue to be used for the purposes of this Impact Assessment; and,
- 83% of LAs were content for the maximum limits to be removed. They reiterated that, should they not be able to fully cost recover the expenses incurred, the quality of service provided would be at risk.

LAs also noted the following:

- That budgets could not be flexed and areas cross-subsidised to help prevent a fee increase. Costs of running the monitoring regime cannot, legally, be passed on to those that are not responsible; and,
- If costs were to increase to the level estimated in this document it would increase the risk of non-payment cases and therefore there would be associated debt recover costs. However, the increased rate of risk was not provided nor the recovery costs involved. However, as the PWS owners/users most affected operate commercial/public supplies, it is within their best interests to pay for the charges incurred otherwise they will be in breach of the regulations and it will be noted as such. These costs are also not as a direct result of changes to the Directive and therefore do not need to be captured.

8. Direct costs and benefits to business calculations (following BIT methodology)

This is a non qualifying regulatory provision and will therefore not contribute towards the Business Impact Target. In transposing Directive 2015/1787 we are meeting the minimum requirements and the amendments to fees charged by LAs do not change the scope of the activity, just allow full cost recovery.

9. Wider impacts

Small and Micro Business Assessment

The majority (80%) of the costs involved in transitioning to the new risk based approach will be borne by businesses in the form of increased analysis costs charged by LAs. Information on the size of businesses is not available. However, it is likely that many of them are small or micro businesses given that they are normally remote from mains supplies and a proportion are classed as B&Bs, camp sites and food premises (which could include micro ventures such as tea rooms or bakeries). The table in annex 1 provides a breakdown between commercial and public activities. The revision of fees to enable LAs to make a full cost recovery will also be borne largely by those same businesses. However, in the interests of public health and because their customers' health is as important as those of large and small to medium sized businesses, it would not be acceptable to exempt the small and micro sized businesses. The resulting longer term benefits of reduced monitoring costs will also fall largely to the same businesses.

10. Summary and preferred option with description of implementation plan

Option 2 is the Government's preferred option as we support the principle of the proposals made under Directive 2015/1787 in standardising the risk assessed approach for monitoring and analysis and changing the performance characteristics of certain parameters via the UoM methodology. It will also correlate with a number of initiatives that DWI are currently undertaking relating to risk assessment tools, sampling frequency and geographical parameters (see below for further information).

Revising Schedule 5 of the Private Water Supplies (England) Regulations 2016 and removing the maximum fee rate will allow LAs to fully cost recover. Other amendments to the Regulations will provide accuracy and clarification and incorporate legislative changes which are already included in guidance. They will also provide LAs with the powers to perform corrective work in the interest of protecting public health.

The implementation plan, which is subject to change, is as follows:

July/August 2017	Pre-consultation clearance
12 September to 24 October 2017	Formal consultation (6 weeks)
November 2017 / March 2018	Collate and issue summary of responses from Consultation and Government response
November 2017 / April 2018	If necessary, update Impact Assessments and draft Statutory Instrument following consultation responses
May 2018	Final clearance
End of May / Start of June 2018	Lay regulations
May 2018	Publish guidance
Mid to late June 2018	UK legislation enters into force

In parallel to the plan the DWI has either completed or is currently carrying out a number of initiatives which will inform the proposed amendments to the Private Water Supplies (England) Regulations 2016. They have/are:

- Carried out a check of regularity and frequency of sampling with a view to determine whether the new frequencies in Annex II require a change in our tables (the conclusion of which was no);
- Produced a risk assessment tool that they have self certified as appropriate for use by LAs to carry out site risk assessment in order to prioritise sampling of 'at risk' parameters at each site and avoid unnecessary sampling. This complies with EN 15975-2 as required. A training video has been placed on their website (explaining how to use the tool) and guidance has been re-written;

- Providing access to other available raw water data such as Environment Agency data and Water Framework Directive in the form of heat maps to show high risk areas. This is now a research project;
- DWI have looked at samples taken over the past 3 years to see how many visits have been carried out and what sampling shortfall there is in order to reduce frequency of sampling. However, it will be for LAs to justify where they believe they have sufficient data to warrant reduced sampling;
- DWI have looked at grouping PWSs into zones. This could potentially enable supplies to be grouped and monitoring frequencies applied to zones rather than individual supplies. A feasibility study is currently underway.

Annex 1

Assuming all LAs will want to monitor Regulation 9 supplies based on risk, they will need to collate sufficient sampling and analysis data to apply the new risk criteria. Therefore, the number of samples being taken during each visit needs to be increased and a full suite of parameters tested. As LAs are currently performing a greater number of PWS site visits than required, the expenses incurred to gather the data will only relate to having to test the full suite of parameters with a saving on the number of site visits being offset against it.

For the calculation we assume:

- Full audit monitoring suite costs £500;
- Based on reported volumes, 6,029 audit samples are required; and
- An equal cost of analysis for each parameter of £8.47 across the 59 parameters, in absence of detail on individual cost of parameters ($£500 / 59 = £8.47$).

Number of extra samples and analyses required to collate risk assessment data

Number of parameters analysed	Shortfall of samples with those numbers of parameters*		Gap between that and full suite	Number of parameters required		Cost (£)
0-5	970	x	5	4,850		41,079.50
6-10	1,493	x	9	13,437		113,811.40
11-20	1,735	x	9	15,615		132,259.10
21-30	4,976	x	9	44,784		379,320.50
31-40	5,815	x	9	52,335		443,277.50
41-50	5,985	x	9	53,865		456,236.60
50-59	6,029	x	9	54,261		459,590.70
TOTAL				239,147	x £8.47	£2,025,575.10

* This includes the mandatory, non variation, testing of E-coli introduced by Directive 2015/1787.

Regulation 9 supplies

The number of private supplies reported in 2015, by region, that are used for commercial (business) and public activity is indicated in the below table.

Region	Educational and training establishments	Hospitals/care facilities	Food premises	B&B/ hotels/camp sites/hostels	Public buildings
East Midlands	1	4	88	167	83
West Midlands	8	4	118	377	130
East of England	8	8	188	311	129
North East England	0	1	101	305	66
North West England	5	4	338	727	121

Yorkshire and Humberside	5	4	205	636	223
London and South East	7	8	162	239	83
South West England	12	7	429	1,807	321
England total	46	40	1,629	4,569	1,156
Some supplies have more than one type of activity, therefore one private water supply may have been counted twice. The actual number of PWS is 6,295.					

Food premises and B&B/hotels/camp sites/hostels are classed as commercial activities with educational and training establishments and hospital/care facilities being added to the number of public buildings. Of the 7,440 listed in the table, there will be an approximate split of 80% ($1,629 + 4,569 = 6,198$) that are used for commercial activity and 20% ($46 + 40 + 1,156 = 1,242$) for public activity.

Annex 2

Before implementing The Private Water Supplies (England) Regulations 2016 (2016/618), Defra undertook a public consultation (1 February to 14 March 2016). The consultation included a question on the level of fees charged by LAs to owners/users for the monitoring and analysis of their PWS. In answer to this question, there was significant concern raised by LAs that the current maximum levels of fees, which were set in 2010, were insufficient to cover costs for undertaking mandatory monitoring and analysis. During this time hourly rates, laboratory costs and fuel/courier costs have increased. LAs have a right under primary legislation to recover costs as reasonably incurred under section 77(4)(d) of the Water Industry Act 1991 and Schedule 5 of the Private Water Supplies (England) Regulations 2016.

To ascertain the status of cost recovery the DWI carried out 3 phases of data gathering:

1. Email

An email was sent to all LAs in June 2016 to ascertain what laboratory charges were being incurred by different LAs. The costs charged by laboratories was variable and, in most cases, returns showed the current fees maximum was insufficient.

2. Workshop

6 workshops were carried out across England with between 40 and 60 people attending each workshop. A place was offered to every LA and with approximately 300 individuals attending, covered the majority of sites and authorities. Breakout sessions were held at each workshop to specifically discuss the maximum allowable fees for each of the PWS activities, from laboratory costs to site investigations and risk assessments. The overwhelming feedback was a frustration that LAs could not cover their regulatory duties without making a revenue loss. Many LAs were actually cutting staff as they could not fund continued PWS functions.

3. Dialogue App

Following the workshops, a list of options for proposed fee increases was put to LAs via a Dialogue App. They were asked to provide comments and indicate their favoured options (the results of which are at Annex 3). There were areas where current costs were agreed sufficient, but key activities where the LAs spend considerable time on site, were deemed totally inadequate and LAs were not recovering their actual costs.

It was articulated that should increases not be forthcoming, there was a risk of severe impact on service quality from LAs, an increased risk to public health for consumers of PWS, and a concern that the role of LAs in fulfilling their regulatory duties would be severely compromised due to lack of budget. LAs voiced very strongly that the maximum ceiling on fees should be removed totally. This would enable them to fully recover their costs (as defined under primary legislation), to spend appropriate time on site to adequately risk assess PWS, (instead of rushing this process due to time constraints) and it would future proof on any cost increases (from laboratories, inflation, etc). Feedback from LAs at workshops made clear that any costs they incur are transparent for audit purposes and they have a duty to not overcharge for services. They felt strongly that this was the only sure way of ensuring full cost recovery.

Annex 3

To help quantify the 'monetised costs to all owners/users of PWS (for fees LAs can charge for monitoring PWS)' we have used LAs favoured options for each activity from the Dialogue App. The options were developed following feedback from regional workshops and, although LAs had suggested removing the maximum ceiling, it was not included as an option as it has not yet been explored internally.

a) Risk assessment

Option 1 was do nothing and leave current maximum at £500.

Option 2 was have a new Regulation 10 supplies maximum of £300, which includes cost for risk assessment (now in the form of a review, travel time and costs to and from site). If there are 6,777 Regulation 10 supplies in England the maximum saving would be £1,355,400.

Option 3 was to combine all Regulation 10 supplies activities (risk assessment, sampling and analysis of parameters in Regulation 10 a – e) plus anything identified in the risk assessment within the current £500 maximum. This was not a popular option at the workshops nor in Dialogue App responses.

In addition to the Options above, there was a proposal for a new Regulation 9 supplies maximum of £700 to include risk assessment (now in the form of a review, travel time and costs to and from site). If there are 6,295 Regulation 9 supplies in England the maximum cost incurred would be £1,259,000.

The preferred option from workshop and Dialogue App responses was to keep Regulation 9 and Regulation 10 fees separate and change the maximum to £300 for Regulation 10 and to £700 for Regulation 9. LAs noted that several Regulation 9 supplies are large and complex therefore the current maximum is inadequate, many small commercial enterprises and public buildings are simple supplies.

The overall net cost of this option would therefore be **-£96,400** (A cost of £1,259,000 minus a saving of £1,355,400).

b) Investigations

The current maximum is £100 which includes desktop investigation of failures and revisits for resampling. Feedback from the workshops was this was too low and only covers 2-3 hrs of an officers time and so is either being carried out at a loss to LAs or not being carried out at all.

The favoured proposal was to increase this fee to £250 which, based on 7,565 failures of the standard and assuming each failure required an investigation, would mean a cost of **£1,134,750** (£150 x 7,565).

c) Sampling

The current maximum is £100, which represents 2-3 hrs of an officers time, and is deemed adequate for the majority of supplies with opportunities existing for LAs to maximise efficiency of sampling (although this would be limited by courier times). Dialogue App responses generally concurred with this although some expressed concern that courier times and laboratory availability may impact on future total cost recovery.

Cost impact is therefore **£0**.

However, 1 LA reported that they subcontracted sampling to laboratory services which reduced costs and therefore they encountered no issues with courier limitations or accredited samplers.

Once the amending regulations come into force, LA staff that carry out sampling will require certification under the ISO 17024 / ISO 17025 scheme. Estimates are £300 per person every 3 years with approximately 3 LA staff needing certification which equates to £900 per LA every 3 years. This can be reflected in charges made for sampling, but should be within the current maximum.

d) Granting an authorisation

The current maximum is £100 but this is very unlikely to be used.

Cost impact is therefore **£0**.

e) Analysing a sample taken under Regulation 10

The current maximum is £25 which relates only to the statutory suite of 5 parameters and NOT the additional parameters identified during risk assessment. Following this clarification at the workshops, LAs believed they could obtain laboratory services that would deliver within the maximum.

Through the Dialogue App, some LAs expressed concern that in some areas accredited laboratories are closing which may make competitive pricing difficult. However, no change is suggested so cost impact is **£0**.

f) Analysing a sample taken during check monitoring (Regulation 9 supplies)

The current maximum is £100 and feedback from laboratories and LAs at workshops was that this was broadly appropriate. The suite comprises between 10 and 17 parameters depending on the nature of the source water and any treatment chemicals used. However, there was an option to increase the maximum to £110 to account for laboratory analytical costs which have increased by 8% since 2010. Although, some LAs indicated that £110 is still too low and quoted £160 for the suite.

If there are 6,295 Regulation 9 supplies in England, based on their volume they would require 9,141 check samples. Therefore, the cost impact would be **£91,410** per year ($£10 \times 9,141$).

g) Analysing a sample taken during audit monitoring (Regulation 9 supplies)

Option 1 was to do nothing but this was not favoured as the current maximum of £500 was currently not covering costs.

Option 2 would increase the maximum cost to £600 which would cover the vast majority of circumstances. The additional costs would include sampling accreditation (over 3 years as indicated at point c), inflation and radioactive substances (where a risk is identified). There would be opportunities to reduce costs in the future, using information from risk assessments of 5 years data, risk based monitoring and use of DWI heatmaps (as mentioned in section 11 of the Evidence Base).

Option 3 would introduce a separate charge of £200 for any additional radioactive substance monitoring.

Option 4 (addition to option 3) an additional fee of £1000 to cover cost of calculation of ID where required.

Assuming 10% of Regulation 9 supplies ($6,295 / 10 = 629.5$) are at risk of radioactivity and of those a maximum of 1% require ID calculations the total cost impact would be **£6,295** ($£1000 \times (629.5 / 100)$).

The Dialogue App responses favoured Option 2 (increase cost of Regulation 9 audit monitoring to a maximum of £600) which would have a cost impact of **£798,200** per year ($£100 \times 7,982$).

The overall impact of the preferred options was therefore:

- a) -£96,400
- b) £1,134,750
- c) £0
- d) £0
- e) £0
- f) £91,410
- g) £6,295 + £798,200

Total cost of **£1,934,255** per year if the estimated maximum costs are incurred in 100% of cases.