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DWI Information Letter 03/2022

7 July 2022

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

Dear Sir/Madam

**Risk assessments under regulation 27 and associated reports under regulation 28 of the Water Supply (Water Quality) Regulations 2016 (2018 in Wales) for Poly and Perfluorinated Alkyl Substances (PFAS)**

**1. Background and Purpose**

- 1.1 In October 2021 the Inspectorate issued Information Letter 05/2021 regarding requirements to submit sample results and summary risk assessment information for PFAS. The information from all companies has now been submitted and reviewed by the Inspectorate.
- 1.2 Following review of this information, the Inspectorate has drawn together good practice from these submissions, which has formed the basis of additional guidance in this Information Letter. Unless already done so, individual companies will not be provided specific feedback on these submissions.
- 1.3 This letter also outlines requirements to regularly submit PFAS sample results through the routine monthly raw water data submissions and makes changes to the tier system reported in PFAS/PFOA Guidance in January 2021.

**2. General Introduction to PFAS**

- 2.1 PFAS (poly and perfluorinated alkyl substances) are a group of compounds, the basis of which are chains of carbon and fluorine atoms. They contain at least one fully fluorinated methyl or methylene group. The carbon-fluorine bond is

very strong and so these compounds do not degrade easily in the environment.

- 2.2 They are resistant to grease, oil, water, and heat and so they have found a large range of uses for example in stain and water-resistant fabrics and carpets, as well as in paints and firefighting foams, cookware, and food packaging. This is not an exhaustive list and there may be many uses of these substances that are not yet widely known.

### **3. New requirements of companies**

- 3.1 Raw and final water samples for PFAS should be submitted with monthly compliance returns under the Water Industry (Water Suppliers') Information Direction 2021 as per the format specified in [Annex B](https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24102412/03-2019_AnnexB.pdf) ([https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24102412/03-2019\\_AnnexB.pdf](https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24102412/03-2019_AnnexB.pdf)). PFAS results must be submitted with the units of micrograms per litre ( $\mu\text{g/L}$ ), as specified in Annex C of this Information Direction [Annex C](https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24101204/0409AnnexB_240322.xls) ([https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24101204/0409AnnexB\\_240322.xls](https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24101204/0409AnnexB_240322.xls)).
- 3.2 Historic PFAS data which has not previously been submitted in the monthly raw water compliance returns (including data submitted by other means as part of the requirement of Information Letter 05/2021) must be submitted in this format by 16 September 2022 at the latest.
- 3.3 Adherence to the new PFAS tier system in Table 1.
- 3.4 All companies are required to submit an update of the risk assessment submission under Information Letter 05/2021. The updated submission should include additional detail on the sections in this Information Letter where these were not covered in the December 2021 submission. The additional submission should be emailed to [DWI.RA.AuditTeam@defra.gov.uk](mailto:DWI.RA.AuditTeam@defra.gov.uk) no later than 31 August 2022.

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## 4. PFAS Tiers and Actions

- 4.1 This guidance document introduces a new tier system to reflect the current position and evolving regulatory expectations.
- 4.2 The PFAS tiers are to be applied to any PFAS compounds, in final water, in addition to perfluorooctane sulphonate (PFOS) and perfluorooctanoic acid (PFOA). This applies to the 47 substances identified in Information Letter 05/2021 published on the Inspectorate's website, and any other PFAS.
- 4.3 The list of PFAS compounds will regularly be reviewed with a view to adding or removing compounds as necessary. The Inspectorate will notify companies of any changes to the list. The up-to-date list of PFAS compounds will be available on the Inspectorate's website in Annex C of Information Letter 03/2019, or any subsequent updates of that Letter and/or Annex.
- 4.4 Where sample results fluctuate between different tier levels, the highest tier should be assumed. If results in the higher tier do not recur in subsequent sampling, the higher tier must continue to apply until robust evidence is gained to confirm that the higher tier is no longer applicable.
- 4.5 As a minimum, robust evidence includes:
  - a) At least one year of sampling at the higher tier frequency.
  - b) Confirmation that sampling has taken place under similar hydrological conditions as the original higher result (for example, same time of year, same hydrological conditions in terms of precipitation and surface or groundwater flows, same pumping regime, or any other relevant factors identified by operational and catchment teams).
  - c) A review of the site PFAS risk assessment and catchment PFAS risks has taken place and has confirmed that a change to the lower tier is applicable.

**Table 1: PFAS final water tiers and actions.**

Tier	Concentration of any PFAS in final water	Action
Tier 1	Less than 0.01 µg/L	<ul style="list-style-type: none"> <li>• Continue to monitor for PFAS. Initially this may be as frequently as quarterly, until a baseline is established which accounts for temporal variation, and a robust risk assessment is complete, at which point the frequency could be reduced to a level sufficient to periodically validate that risk assessment.</li> <li>• Ensure PFAS considered as part of statutory risk assessment.</li> <li>• A hazard line for PFAS should be submitted in the regulation 28 report with a DWI risk category of A or H for every site in this tier.</li> </ul>
Tier 2	Less than 0.1 µg/L	<ul style="list-style-type: none"> <li>• Continue to monitor for PFAS. For medium risk sites which may not yet be tier 2, and tier 2 sites, a frequency between monthly and quarterly should be sufficient to enable predictive modelling. Frequencies may need to be increased if tier 3 is predicted to be breached.</li> <li>• Review any control measures, such as blending procedure including the efficiency, control and monitoring of that measure.</li> <li>• Ensure relevant risk assessment is up to date and under constant review.</li> <li>• Discuss with Liaison Inspector in working hours if final water result exceeds company's internal limit.</li> <li>• Discuss with Liaison Inspector in working hours if there is an increasing PFAS trend, which could lead to a breach of the wholesomeness level (tier 3).</li> <li>• The purpose of notifying the Liaison Inspector under this tier is to discuss whether the occurrence should be a reportable event, which will depend on each individual circumstance.</li> <li>• Prepare measures to prevent the supply of water to consumers with &gt;0.1 µg/L PFAS.</li> <li>• Consult/discuss with UKHSA and local health authorities</li> </ul>

Tier	Concentration of any PFAS in final water	Action
Tier 3	Greater than or equal to 0.1 µg/L	<p>Wholesomeness concentration in final water.</p> <ul style="list-style-type: none"> <li>• Notify as an event for any results greater than or equal to 0.1 µg/L in water supplied to consumers, or any raw water results that are likely to produce results &gt;0.1 µg/L in water supplied to consumers.</li> <li>• Notify UKHSA and local health authorities.</li> <li>• Resamples as a minimum from raw water sources, blended or combined raw water point, and final water for water treatment works. Resamples should be fast tracked. Frequencies should be established to understand the impact in the specific supply situation, and to inform decision making.</li> <li>• Check and review control measures, such as blending procedure including the efficiency, control and monitoring of that measure.</li> <li>• Prepare emergency contingency measures to prevent the supply of water to consumers with &gt;0.1 µg/L PFAS if the control measures employed become inadequate.</li> <li>• Fast track sampling at treated water blending point (if applicable) and/or in water quality zones.</li> <li>• A minimum of monthly samples in monitoring programme for raw and final water points for a minimum of 12 months, timed to take account of any changes in hydrological conditions, such as droughts, deluges or changes in pumping regimes.</li> <li>• Review catchment and PFAS sources information within 10 working days of receiving result and provide an update to the regulation 28 report as part of the event report.</li> <li>• This list of actions is not exhaustive; all necessary actions to investigate the source of the PFAS and reduce concentrations below 0.1 µg/L in water supplied to consumers must be taken.</li> </ul>

## 5. Risk assessment and risk scoring for PFAS compounds

- 5.1 Each company should have a risk assessment methodology for PFAS compounds. Although the majority of this may be incorporated into the general Water Safety Planning (WSP) methodology, the specific details of how each risk score is calculated must also be available. This may be done through a hazardous event and risk question template or via a specific methodology for PFAS.
- 5.2 Risk scores, as for the WSP methodology, must clearly link to DWI risk categories as well as the tiers for PFAS. The methodology document should be regularly reviewed as more information regarding PFAS becomes available, for example analysis capability and availability, toxicology and possible catchment sources. The PFAS methodology should also be subject to the same company internal audit conditions as the WSP methodology.
- 5.3 The risk assessment must include a catchment assessment covering a minimum of the activities in Table 2. It is good practice to engage with catchment stakeholders and conduct physical investigations to verify the catchment risk and to ensure that data-driven risk analysis is up to date. Companies must ensure a system is in place to identify all present and historic sources of PFAS and how these could enter drinking water abstractions, including under all likely hydrological conditions and pumping regimes.

**Table 2: Minimum PFAS source considerations for risk assessments.**

PFAS Source	Information
Airport or airfield (including landing strips)	Location; Use of PFAS foams, in particular aqueous film forming foam (AFFF); Use of PFAS hydraulic fluid; drainage
Fire training centre/fire station	Location; Use of PFAS foams (current and historic); drainage
Major fire locations	Location of AFFF use historically and when used in the catchment ensure this is communicated to the appropriate team
Wastewater discharges	Location; Quality; Combined sewer overflows; Private discharges
Trade effluent	Risk industries; Volume and dilution; Sampling

PFAS Source	Information
Industry (including historic), especially chromium plating, paper and cardboard manufacturing, carpet manufacturing, textile manufacturing, cosmetics manufacturing, food packaging manufacturing, etc.	Number of each industry type; Discharge consent; Private or public sewer; Dilution volume
Landfill (including historic)	Number; Location; Leachate quality
Biosolids	Spreading location; Active or historic
Sludge to land	Spreading location; Active or historic

- 5.4 The list in Table 2 is a minimum requirement. Companies must ensure a system is in place to identify any sources of PFAS that are not included here that may be relevant in their catchments. The Inspectorate has funded research projects that may assist in understanding potential sources of PFAS and these are available on the Inspectorate’s website under the Research pages.
- 5.5 Risk assessments should include consideration of the proximity of any sources of PFAS to abstraction points, catchment flows, extremes of hydrological conditions and changes in pumping regimes. Other potential considerations must be reviewed based on information from operational and catchment staff as well as any relevant desktop or site information.
- 5.6 Companies may determine their own risk scoring systems, but the PFAS methodology must link risk scoring to one of the three risk levels for PFAS shown below for raw and final water (Table 3).

**Table 3: Tiers and sample results.**

Tier	Results or Result Risk Assessment	Description
Tier 1	<0.01 µg/L	Low
Tier 2	<0.1 µg/L	Medium
Tier 3	≥0.1 µg/L	High

- 5.7 Companies should have a robust risk scoring methodology relating the PFAS risk sources, including number of sources of PFAS, identified in the catchment to the risk of tier exceedances for each source water, a blended raw water point, and final water point.
- 5.8 The location of each PFAS risk source and the availability of control measures, including geological features and dilution, should be studied and understood prior to reducing risk scores. Risk reduction based on control measures must be clearly detailed within the PFAS risk assessment methodology.
- 5.9 Controlled risk scores should not be determined solely by sample results. Sample results should be used to verify risk. Where sample results are in a different, particularly a higher, risk category, the catchment methodology and information should be reviewed as soon as possible.
- 5.10 The effect of returning any process water containing PFAS to the head of the works must also be considered, where this occurs.
- 5.11 Dialogue between water companies and local authorities regarding PFAS risk assessments is encouraged. Risk assessments and data held by water companies pertaining to catchments in which there are private water supplies should be made available to local authorities, where applicable.

## **6. Control measures**

- 6.1 Any control measures used to manage PFAS concentrations must be scientifically proven to reduce levels of PFAS and have suitable, reliable, and regular verification processes. These options may include treatment and/or blending of water.
- 6.2 If GAC is used as a control measure, the company should have a suitable policy ensuring that the type of carbon used is suitable for removal of the PFAS present in the raw water and that the empty bed contact time required for PFAS removal has been calculated at the maximum flow rate for the works and with the maximum likely number of GAC contactors offline. Any policy should also ensure that GAC cannot be bypassed to maintain suitable control for PFAS at all times.
- 6.3 The company should also have established a policy for proactive regeneration for activated carbon, which includes an understanding of carbon exhaustion rates, consideration of bed volumes, and adsorption capacity for PFAS. The company should regularly test each adsorber to ensure that the carbon remains active for PFAS removal.

- 6.4 Any treatment process employed to reduce PFAS should be validated and associated with a suitable policy to ensure that appropriate levels of proactive maintenance are undertaken to maintain the treatment process and that it is verified through appropriate sampling.
- 6.5 Where water, including treated water and rinse water, is returned to the treatment process, this must also be considered in the PFAS risk assessment and appropriate testing should be undertaken. Where PFAS is present in the source water, any GAC returned from regeneration should be sampled for PFAS.
- 6.6 Where treatment for PFAS removal is used, the company should have a policy indicating how PFAS-contaminated products are dealt with once no longer required or suitable for use on water company sites.
- 6.7 Where blending is employed as a control measure, a policy should be in place documenting the flows needed from other sources to ensure sufficient blending takes place under all potential scenarios that may impact the blending effectiveness. The policy, calculations, and associated water treatment works alarms should be verified, sampled, and audited on a regular basis. Where there is uncertainty in the calculations, a safety margin should be included to ensure that under all conditions the concentration of PFAS in drinking water supplied to consumers remains below 0.1 µg/L.
- 6.8 The management of blending control measures must be inherently adaptable and suitable for all potential flow, weather and demand conditions, and other variables that may be experienced to ensure that drinking water supplies remain below 0.1 µg/L.

## 7. Stakeholder communication

- 7.1 Communication with external stakeholders is important. Information must be provided regularly to ensure that catchment risk assessments are up to date. The PFAS WSP methodology should include the procedure for receiving information from external stakeholders.

**Table 4: External stakeholders for PFAS risk assessments.**

Stakeholder	Examples of Information Required
Environment Agency and Natural Resources Wales	Spill locations; Environmental pollution incidents; River flow and dilution. Discharge consents. Historic landfill sites.

<b>Stakeholder</b>	<b>Examples of Information Required</b>
Wastewater Teams	Location and volume of discharges; Combined sewer overflows location and spill frequency
Trade Effluent	Companies and industry types operating within the catchment and discharge consents
Fire Brigade	Major uses of foam; Location of training centres; Incidents in which AFFF foam is used
Airports, Airfields, Airstrips (including military)	Location; Run off locations; Waste disposal
Landfill Operators	Location, including historic landfill; Discharge conditions; Discharge quality; Type of landfill
Local Authorities	Confirmation of information held; Discussion regarding possible effects on private supply boreholes; Exchange of risk assessments and data; Regular collaboration. Landfill site location and type.
UKHSA	Consideration of any health-based restrictions

7.2 Internal stakeholders should be involved with the PFAS risk assessment and should be able to provide, at a minimum, the examples of information detailed in Table 5.

**Table 5: Internal stakeholders for PFAS risk assessments.**

<b>Internal Team</b>	<b>Examples of Contribution to Risk Assessment</b>
Water Resources and Catchment	Location of PFAS risk sources; Understanding how different hydrological conditions may affect PFAS concentrations; Liaison with airports and airfields and other catchment stakeholders; Risk to catchment from sludge to land and biosolids application

Water Quality, Treatment or Process Scientists, Site Operators and Technicians and associated managers	Ensure sample results are processed in a timely manner to enable notification where necessary. Where control measures are required for PFAS, that these are operating as per the company policy and procedures. Escalate any changes that could affect PFAS concentrations in the final water within the company to ensure prompt action and review of the risk assessment.
Sampling	Note any changes within catchment when accessing and travelling to sites.  Ensure risks of cross contamination from non-associated sources for example clothing and equipment are minimised.  Use appropriate sampling techniques and bottles.
Laboratories	Select and use accredited methods when available.
Maintenance	Note any changes within catchment when accessing and travelling to sites
Raw Water Rangers	Note any changes within catchment when accessing and travelling to sites
Water Regulations	Note uses of PTFE tape or other sources of PFAS that could have contaminated drinking water in consumer properties when completing surveys following a sample result exceedance at a consumer property, including fittings.

7.3 Communications are expected on a regular basis (at appropriate frequency based on prioritised risk) and to be checked at least every six months. External stakeholders should be provided with at least two contact numbers and email addresses and a procedure for out of hours communication in the event that PFAS pollution occurs that could affect drinking water supplies.

## 8. Bulk supplies, NAVs and inset appointees

8.1 Companies providing bulk supplies of water (raw or treated) should include within the bulk supply arrangement how and how frequently PFAS results are supplied to the receiving company. Companies providing bulk supplies of water should also provide details of the risk assessments undertaken in addition to the regulation 28 reports so that those receiving the bulk supply

are fully informed regarding the risks from the water being supplied and the control measures being used.

- 8.2 Where PFAS is detected at a consumer tap sample, bulk supply companies should provide an opportunity to review the catchment and any treatment and control measures in place for PFAS. This includes raw or treated water blending and treatment removal performance. This assistance should be provided as soon as possible to enable the PFAS risk to be fully understood, catchment to tap.
- 8.3 Companies receiving bulk supplies for onward distribution, including NAVs and Insets, retain the statutory responsibility for supplying wholesome water and for completing a regulation 27 risk assessment. It is not sufficient for companies receiving such supplies to rely on event notifications, because the purpose of risk assessment is to understand the risks to prevent water quality events from effecting consumers before such an event occurs. As such, it is expected that companies receiving bulk supplies will seek adequate information to risk assess the supply and put in place any necessary measures to monitor and reduce the risk, which could include, but is not limited to, making representations to the bulk supplier to improve control measures or have in place contingency plans for supplying consumers.

## **9. Sampling**

- 9.1 A PFAS sampling programme should be developed, relating sampling to the tier level of the raw water source(s) and the representativeness of the sampling point(s) in relation to the water entering the downstream water treatment works. Companies must sample and analyse for all required PFAS compounds using a fully accredited method. Resampling protocols should also be established to cover raw water sources, blending points, final water, and consumer properties (where applicable).
- 9.2 Where an analytical method is not fully accredited and an accredited method is not available, results must be flagged as being non-accredited. An accredited method should be used where it is available.
- 9.3 Individual raw water abstraction points should be sampled, as well as final water. Companies may wish to sample combined raw water points to provide information about raw water blending.
- 9.4 Where there is no treatment for PFAS and only a single raw water source the company may choose to sample final water only.

- 9.5 Raw and final water samples for PFAS should be submitted with monthly compliance returns under the Water Industry (Water Suppliers’) Information Direction 2021 as per the format specified in [Annex B](https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24102412/03-2019_AnnexB.pdf) (https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24102412/03-2019\_AnnexB.pdf). PFAS results must be submitted with the units of micrograms per litre (µg/L), as specified in Annex C of this Information Direction [Annex C](https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24101204/0409AnnexB_240322.xls) (https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24101204/0409AnnexB\_240322.xls).
- 9.6 Historic PFAS data which has not previously been submitted in the monthly raw water compliance returns (including data submitted as part of the requirement of Information Letter 05/2021) must be submitted in this format by 16 September 2022 at the latest.
- 9.7 Resampling protocols should be established to cover raw water sources, blending points, final water, and consumer properties (where applicable). Where there is treatment in place for PFAS removal, sampling should cover pre and post treatment sample points.

## DWI risk categories

**Table 6: DWI risk categories and PFAS.**

Risk Category	Description
A	Control measures are in place to maintain PFAS below 0.1 µg/L in final water at all times. The control measures are associated with fully auditable procedures which are always in operation to ensure compliance.
B	New control measures to reduce and control PFAS concentration are in place and are being verified through sampling. At least six sets of samples are needed to verify the control measures. Samples to verify control measures should be taken to represent all conditions that could affect PFAS concentrations that might reasonably be expected to occur, for example different pumping regimes or regeneration intervals.  May be used for a tier 3 risk which is no longer believed to need investment. Must remain in category B until at least six samples have been taken at regular intervals which ensure that the water quality is always below 0.1 µg/L for PFAS.
C	New control measures are being installed to reduce and control PFAS concentration to tier 2 or below.

D	Tier 3 risks require additional control measures and these have been defined, but not yet implemented. This includes the development of policies, alarms, and changes to SCADA and shutdown systems, or any other relevant control measures.
E	Tier 3 risks must initially be given a category of E whilst being investigated to understand the severity and extent of the PFAS issue and what control measures might be required.
F	Where there is blending at the raw water point but treatment is still required downstream, the PFAS hazard at the raw water point must be reported as category F.
G	PFAS is present as a hazard, but there are no control measures at the stage being assessed. All control measures for PFAS are undertaken at a downstream asset.
H	There are no PFAS control measures in place and none are needed. This includes blending and/or treatment. This category may only be used where there are no PFAS sources in the catchment and/or the raw water risk has been assessed as low and therefore no treatment is required. Sampling is not a control measure but is a way of validating risk level.
I	A rising PFAS trend has been noticed and results are trending towards 0.1 µg/L, but the company does not consider any immediate actions to be required.

## 10. Regulation 28 report

- 10.1 A new hazard code has been created which represents all PFAS substances (H067). In addition to this, new hazard codes have been created for individual PFAS that could be present in source waters. Annex C of the Water Industry (Water Suppliers') Information Direction 2021 has been updated with the new parameters and the new hazard code for companies to use [Annex C](https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24101204/0409AnnexB_240322.xls) ([https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24101204/0409AnnexB\\_240322.xls](https://cdn.dwi.gov.uk/wp-content/uploads/2020/11/24101204/0409AnnexB_240322.xls)).
- 10.2 The regulation 28 report must list hazard code H067 as a minimum for every company site. Where any form of additional mitigation is required, represented by a DWI risk category B, C, D, or E as defined in Annex A of Information Letter 03/2019, each individual PFAS parameter that the mitigation applies to must be reported as a separate hazard line. Raw water sources with PFAS results above 0.1 µg/L must also be reported individually.

- 10.3 Contact the Inspectorate's Risk Assessment team ([DWI.RA.AuditTeam@defra.gov.uk](mailto:DWI.RA.AuditTeam@defra.gov.uk)) for any PFAS which do not currently have a code in Annex C of the Water Industry (Water Suppliers') Information Direction 2021 but are believed to be a potential risk according to the companies WSPs or sampling.
- 10.4 PFAS hazards in WSP should be present in the catchment stage of the risk assessment and should be carried forward to and present in the report for each stage following catchment.
- 10.5 A PFAS risk assessment should therefore be completed for each individual raw water source and for carried forward risks, blending points for both raw and final water should be accounted for.
- 10.6 Where there are additional sources of PFAS at other stages, these should be included as a separate hazardous event and the risk combined to provide an overall PFAS risk at the site.

## 11. Event reports

- 11.1 All final water results for any PFAS greater than or equal to 0.1 µg/L, or any raw water results that indicate a potential breach of 0.1 µg/L in final waters, should be notified to the Inspectorate as an event, as well as any failure of PFAS treatment where raw water sources are in tier 3.
- 11.2 As part of the 72 hour report it is expected that the company will include as a minimum:
- Raw water and water treatment works schematic.
  - Blending or treatment plan.
  - Protocols for raw, partially treated, and final water blending and whether these have been followed at all times.
  - Flow meter and blending information.
  - Resample points.
  - All previous samples, including operational samples.

## 12. Resubmission of risk assessments

- 12.1 All companies are required to submit an update of the risk assessment submission under Information Letter 05/2021. The updated submission should

include additional detail on the sections in this Information Letter where these were not covered in the December 2021 submission.

12.2 The additional submission should be emailed to [DWI.RA.AuditTeam@defra.gov.uk](mailto:DWI.RA.AuditTeam@defra.gov.uk) no later than 31 August 2022.

This letter is being sent electronically to board level and day to day contacts. Please acknowledge receipt by email to [dwi.enquiries@defra.gov.uk](mailto:dwi.enquiries@defra.gov.uk). Hard copies are not being sent but the letter may be freely copied. Any enquiries about the letter should be sent by email to [DWI.RA.AuditTeam@defra.gov.uk](mailto:DWI.RA.AuditTeam@defra.gov.uk).

Copies of this letter are being sent to Christine McGourty, Chief Executive, Water UK; Davide Minotti, Deputy Director Water Services, Department for Environment, Food and Rural Affairs; Eifiona Williams, Water Management Team, Welsh Government; Sue Petch, Drinking Water Quality Regulator for Scotland; Catriona Davis, Drinking Water Inspectorate for Northern Ireland; Alice Laycock and Emma Clancy, CCW; Alison Cullen, Ofwat; Anne Dacey, Environment Agency; Benedict Duncan, Food Standards Agency; and Stephen Robjohns and Anna Ireland, UK Health Security Agency.

Yours sincerely



Marcus Rink  
Chief Inspector of Drinking Water