United Utilities Water Limited
Haweswater House
Lingley Mere Business Park
Lingley Green Avenue
Great Sankey
Warrington WA5 3LP

Telephone: 01925 237000
unitedutilities.com

Our ref: EIR-642
Date: 21/01/2026
Email: EIRRequests@uuplc.co.uk

Dear [redacted]

Thank you for your request for environmental information. We appreciate your interest, and we want to let you know that your request has been carefully considered in accordance with the Environmental Information Regulations (EIR).

Your request:

Ptaquiloside is a naturally occurring, water-soluble genotoxic carcinogen produced by bracken (*Pteridium aquilinum*). Its carcinogenicity has been demonstrated in multiple animal models, and it has been shown in peer-reviewed studies to leach from bracken-dominated upland catchments into surface water, groundwater and drinking-water abstraction points, particularly during rainfall and storm-flow events.

This issue has been recognised internationally as an emerging contaminant of concern and has been the subject of formal assessment by the UK Drinking Water Inspectorate, as well as recent EU-funded catchment-management research (e.g., LIFE URBASO).

The Rothay–Windermere catchment, which includes tributaries such as Scandale Beck, is designated as a Drinking Water Protected Area and drains extensive upland bracken stands, including those on my land. In light of this, I am seeking clarification as to whether and how United Utilities has considered ptaquiloside risk within its water-quality management framework.

Information requested

Please provide the following information, insofar as it is held by United Utilities:

Monitoring and analytical data

- Any monitoring data (raw water, treated water, or distribution water) relating to ptaquiloside, pterosin B (its primary breakdown product), or other bracken-derived illudane glycosides.
- This includes results from:
- routine monitoring
- research or pilot studies
- *ad hoc* or investigative sampling
- Please specify:
- sampling locations
- dates
- analytical methods used (for example, LC–MS/MS)
- limits of detection

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Risk assessments

- Any risk assessments, internal reports or technical reviews that consider:
- bracken-derived toxins
- ptaquiloside specifically
- natural organic carcinogens arising from upland vegetation
- This includes assessments prepared for:
- Drinking Water Protected Areas
- catchment risk profiling
- Water Safety Plans

Catchment management and mitigation

- Any catchment-management actions, pilot schemes or funded projects that explicitly or implicitly consider bracken control as a measure to protect raw water quality.
- Any internal discussion or correspondence linking bracken management to water-quality protection.

Engagement with regulators

- Correspondence, reports or submissions exchanged with:
- the Drinking Water Inspectorate,
- the Environment Agency,
- DEFRA,

that refer to ptaquiloside, bracken toxins, or related emerging contaminants.

Current position and future plans

- United Utilities' current position on ptaquiloside as a potential drinking-water contaminant.
- Whether there are plans to introduce monitoring, modelling or catchment-based mitigation relating to PTA in upland catchments, including but not limited to the Rothay–Windermere system.

Our response:

Since 2004, we implemented a Drinking Water Safety Plan (DWSP) approach to understand potential risks to water quality and water sufficiency across the water system. The DWSP approach is endorsed by the World Health Organisation, and we follow their water safety planning framework. This involves a 'source to tap' risk management approach that identifies and proactively manages risks to drinking water quality. This approach is central to the way in which United Utilities ensures a continuous supply of safe drinking water now and in the future. There are 3 key elements that are considered, these are: hazard characterisation and risk assessment, identification of control measures and associated monitoring and finally verification and continuous review.

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During this DWSP process we assess the potential impact of any changes to the water system, for example new activity within the raw water catchment, the potential impacts from climate change on raw water quality, a change to a water treatment chemical or an emerging contaminant. If these assessments identify a particular risk, additional measures would be put in place to investigate that risk further, for example by introducing or increasing monitoring or carrying out further research. There are several options for carrying out this research, for example through UKWIR (UK Water Industry Research), OFWAT innovation fund, or company specific research engaging with subject matter experts from both industry and academia.

We also review the guidance documents provided by the World Health Organisation, the Drinking Water Inspectorate, the UK Health Security Agency and key organisations associated with the supply of high quality in drinking water across Europe and Australia. For example, the World Health Organisation undertakes research and provides guidance on chemicals appropriate use and allowable concentrations in drinking water. These assessments take into consideration the proportion that may come from water and other sources, such as food.

The WHO guidance advises on the levels that can be present in drinking water which do not cause concern for human health (4th edition of the drinking water quality guidelines which can be accessed at Guidelines for drinking-water quality: Fourth edition incorporating the first and second addenda (who.int).

In addition to the information sources listed above, an Independent Water Quality Advisory Panel has been established in the UK, that provides recommendations to government on the current water quality standards and any proposals for new standards. We actively review any of these recommendations and assess whether there are any additional measures that we need to take.

There have been two studies relating to ptaquiloside published on the Drinking Water Inspectorate (DWI) website. The links to these studies are included below:

1. Ptaquiloside & other bracken toxins: A preliminary risk assessment. - Drinking Water Inspectorate
2. Measurement of ptaquiloside concentrations at a few of the most vulnerable sources and final waters - Drinking Water Inspectorate

United Utilities was involved in the second study, which was conducted in 2016. Our involvement was limited to sample collection as detailed within the acknowledgements section of the document. The samples within this study were taken throughout 2014 and 2015 and analysed by Food and Environment Research Agency (FERA). The details of the sampling and results are listed within section 3 and 5.

Section 5.1, relating to public water supplies confirms that there were no positive detections of ptaquiloside or its degradation product, including the sampling point provided by United Utilities.

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Based on the information available in the reports, advice to the industry in the aforementioned publications, and our catchment risk assessments, we have not identified a significant risk to the raw water quality or the final water leaving the water treatment works. Therefore, United Utilities does not monitor, or sample for ptaquiloside in either raw water sources supplying our treatment works or treated water leaving our water treatment works.

Engagement with regulators

There has been no United Utilities correspondence with our regulators relating to ptaquiloside, bracken toxins, or related emerging contaminants. United Utilities only involvement relates to the above studies mentioned however, we will continue to monitor for developments within this area and engage in any response or feedback issued by the Water Quality Advisory Panel.

Current position and future plans

As stated above within section 2, we follow the DWSP approach, which is endorsed by the World Health Organisation, which will identify and proactively manage any new risk to drinking water. We continue to engage in key organisations associated with the supply of high quality in drinking water across Europe and Australia and actively review recommendations from the newly established Water Quality Advisory Panel.

This approach will ensure that United Utilities maintains a continuous supply of safe drinking water now and in the future.

We hope that this response answers your request. However, if you're not satisfied with how we've handled it, you can request an internal review. To do this, please write to us at Environmental Information Office, Haweswater House, Lingley Mere, Warrington, WA5 3LP or email us at EIRRequests@uuplc.co.uk, addressing your request to [redacted] and explaining why you're unhappy with our response. We'll be very happy to review your request and ensure we've done everything we can to assist you.

Any request for an internal review should be made within 40 working days of receipt of this response, and we will reply within 40 working days from receipt of the request for internal review.

Many thanks
[redacted]

We'd love to hear your feedback on how we handled your request! If you have a moment, please complete our short survey here – your input helps us improve our service.