



Water for the North West

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-623
Date: 08/01/2025
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).

We have answered your specific requests for disclosure below and as requested we have provided the information in digital format PDF or Excel. Please note that some redactions have been made to the information provided in line with Regulation 13 of the EIR and UK GDPR to remove any personal information such as staff names.

A. Plastic Bio-Media Use in Your Treatment Facilities

1. **Confirmation of whether plastic bio-media is used in any of your company's water or wastewater treatment facilities.**
2. **A complete list of all sites using plastic bio-media technology including site name, location, and facility type.**

B. Type and Specification of Plastic Bio Media

3. **The type(s) of plastic bio-media used at each site, including but not limited to:**
 - a. **Media product type (e.g. Bio Beads)**
 - b. **Manufacturer**
4. **The volume or quantity of plastic bio-media installed at each site.**

C. Duration and History of Use

5. **The date plastic bio-media was first installed at each site.**
6. **Whether the media has been renewed, replaced, topped-up or upgraded since its initial installation.**

We can confirm that United Utilities Water (UUW) does not use plastic bio-media within any water treatment facilities but does use plastic bio-media within some of its wastewater treatment facilities (WwTW). UUW operates a number of different processes that utilise mobile plastic media in various different forms, across 82 WwTW. Appendix A sets out the information requested in questions A2 to C6, (including what type of media is used in which locations, with bio-beads exclusively used in BAFF plants, whereas other plants use other forms of plastic media).

7. **Future plans for each site where plastic bio-media is present including expected date of decommissioning or improvements.**

UUW has replaced or is in the process of replacing Biological Aerated Flooded Filters (BAFF) processes at Liverpool WwTW, Blackburn WwTW, Oldham WwTW, and Macclesfield WwTW. In addition, the BAFF plant at Wigan WwTW is planned to be replaced during the current five year period (to 2030) and a move to biological phosphorus removal. Davyhulme WwTW is likely to be replaced during the next five year period (2030 to 2035).



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At Macclesfield WwTW, the BAFF process has just been replaced with the UK's first Mobile Organic Biofilm (MOB) at a cost of £60 million. This utilises an all-natural Kenaf plant-based media to intensify the treatment levels by providing a large surface area for the useful bacteria in the same way that bio-beads do in a BAFF plant. The plant-based media is more sustainable to farm, harvest and produce than the alternative plastic or glass-based bio-beads and has the added advantage of facilitating the biological removal of nutrients (phosphorus), resulting in large reductions in the use of inorganic chemicals for removal of phosphorus. A second plant is commissioned at Warrington South WwTW to replace an activated sludge plant.

This is exciting new technology at the site and would like to invite you to visit the site to gain a clearer understanding of its potential. If you would like to take up this offer, please email [REDACTED], who will be happy to arrange the visit.

D. Spill, Loss, or Release Incidents

8. Records of any plastic bio-media spills, losses, or escape incidents since installation. For each incident, please provide:

- a. Site location**
- b. Date of incident**
- c. Discharge pathway (e.g., river, land, sewer system)**
- d. Volume/extent of media lost**
- e. Cause of the incident**
- f. Environmental impact assessments (if undertaken)**
- g. Any remediation or cleanup undertaken**
- h. Correspondence with environmental regulators relating to the incident**

UUW has identified five incidents that appear relevant to your query. For each of these records attached correspondence with the Environment Agency sets out the information requested in question D8a to 8g (where available).

- Oldham WwTW – 2011 see Appendix B1 and B2.
- Mowpen Brow WwTW – 2017 see Appendix C.
- Wigan WwTW – 2017 see Appendix D.
- Fazakerley WwTW – 2020 see Appendix E1 and E2.
- Bury WwTW – 2025 see Appendix F1 and F2.

E. Response Protocols

9. Internal procedures, protocols, or standard operating processes for responding to plastic bio-media spills, losses, or operational failures.

10. Any training materials or operational guidance documents related to plastic bio-media handling, containment, or emergency response

Day to day management systems and processes are consolidated into a Standard Operating Procedure (SOP). The SOPs (including operation and maintenance tasks) for BAFFS and Submerged Aerated Filter (SAFs) can be found in appendices G and H. Appendix I provides an



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example of the site instructions for Ellesmere Port WwTW which recently had a new Integrated Fixed-Film Activated Sludge (IFAS) plant installed. As can be seen in Appendix A, this process has been installed at two WwTW, and the SOP for the IFAS will be updated once the knowledge has been transferred from the manufacturers into UUW's corporate knowledge databases and training materials as part of our commissioning and handover.

Over the past 12-months, UUW has undertaken a comprehensive Process Knowledge Review (PKR) with key operational colleagues including Process Operators, Process Controllers and Technical Officers. As part of this programme, colleagues have completed relevant training units covering Activated Sludge, Fixed Film Biological Treatment, Preliminary Treatment, Primary Treatment and Tertiary Treatment. This programme was delivered by an external industry expert and will continue to be delivered by the internal Technical Training team, to new recruits and as required (slides covering the BAFF element of the course can be found in Appendix J. These slides were delivered in a classroom setting, accompanied by a lecture and discussion).

In parallel, the same colleagues have attended, or are scheduled to attend, dedicated training on pollution events affecting water bodies. This training strengthens UUW's operational readiness by ensuring staff can effectively identify, manage, report and mitigate the impacts of spills, supporting both environmental protection and regulatory compliance.

F. Future Planning

- 11. Whether your company has a strategy, plan, or timeline for continuation, extension of life or transitioning away from plastic bio-media.*
- 12. If such a plan exists, please provide:*
 - a. Strategic rationale*
 - b. Expected replacement technology or media type*
 - c. Proposed implementation timeline*
 - d. Any pilot trials or feasibility studies already completed*

UUW's longer term ambition is to phase out remaining BAFF plants over time, as tighter environmental outcomes are required and newer technology is better suited to achieve these outcomes. This is already underway as described in question 7, with the replacement of Blackburn, Liverpool and Oldham BAFFs, the installation of MOB at Macclesfield and the proposed upgrade at Wigan and Davyhulme in the coming years. At present the remaining BAFF plants are reliably meeting their current consent standards, and it is not yet practical to retrofit alternative technologies into the existing civil structures and processes at these sites, although this is something that we continue to explore. Therefore, the pace of the work to replace them will depend upon a number of factors, such as the timing of the implementation of new consent standards, for example to comply with the Government's "Water 2050" vision to significantly reduce nutrient pollution, as well as the nature and the pace of the continued development of new technologies.

I hope this response answers your request. However, if you are not satisfied with how we have 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



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EIRRequests@uuplc.co.uk, addressing your request to [REDACTED]
[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.