

REFERENCE

2526375

RELEASE DATE

November 2025

SUBJECT

Requesting various information related to Lough Fea Water Treatment Works (WTW) and its associated Water Supply Zones (ZN0502, ZN0504).

RESPONSE

NI Water can respond to each query in turn as follows:

1. Process & Engineering Detail

A copy of the current process flow diagram (as-built) for Lough Fea Water Treatment Plant



The above is a general example of the Water Treatment Works processes.

NI Water cannot supply site-specific treatment flow diagrams for national security and public safety reasons. These are considered lawfully exempt under Regulation 12(5)(a) of the EIR (more information below).

Details of all treatment barriers currently in operation (coagulation, dissolved air flotation, filtration, activated carbon, ozonation, advanced oxidation, disinfection).

Please note the flow diagram above for this information.

Confirmation of whether Granular Activated Carbon (GAC) contactors are installed and operational, and if so, the design Empty Bed Contact Time (EBCT).

GAC filters are not in operation at Lough Fea WTW.

Records of Powdered Activated Carbon (PAC) dosing from January 2023 to present (dates, dosing rates, volumes).

PAC is not dosed at Lough Fea WTW.

2. Operational Logs (2023–2025)

Daily or shift logs covering:

Coagulant type and dosing.

The coagulant type is Ferric Aluminium Sulphate (FAS). However, the dosing arrangements are lawfully exempt from disclosure to the public for reasons of national security and public safety under Regulation 12(5)(a) of the EIR.

PAC/GAC operation and dosing.

As detailed above, PAC and GAC are not used at this site. Regulation 12(4)(a) of the EIR applies (please see below).

Filter turbidity values (individual filter and combined final water).

Dissolved Air Flotation (DAF) performance records during algal bloom periods.

This information is derived from our telemetry systems. Departmental guidance advises that site-specific telemetry data should not be disclosed to the public domain via information access requests for reasons of national security and public safety. As such, Regulation 12(5)(a) of the EIR again refers.

Free and total chlorine residuals at the final water and service reservoirs.

Please find this information within Annex A, attached.

Any recorded algal bloom alarm activations or equivalent incidents at Lough Fea intake during this period.

There was a report of algae at Lough Fea Reservoir on 12 August 2025 via the Blooming Algae app and this was reported to NI Water by the Northern Ireland Environment Agency (see their link below in relation to confirmed reports of blue-green algae).

<https://experience.arcgis.com/experience/c2a28780d7554bed9d1f47f3ae710fa4/page/bluegreenalgaemap-data-s=id%3AdataSource-3-19174534d65-layer-3%3A3878>

NI Water put in place sampling and monitoring for algae at Lough Fea following the report of visible algae. Sampling remains in place. Signage was also erected at Lough Fea to inform the public.

3. Drinking Water Quality Data (Raw and Treated Water, 2023–2025)

Please provide accredited laboratory results (including sample dates, times, and locations) for raw water, post-treatment, and distribution samples for:

Cyanotoxins: microcystin congeners (MC-LR, MC-RR, MC-YR, etc.), nodularin, and anabaenopeptins (LC-MS/MS or LC-HRMS).

Total organic carbon (TOC) and UV254 absorbance.

Trihalomethanes (THMs) (total and individual species).

Pesticides/herbicides (including atrazine, glyphosate, organophosphates, and other compounds tested).

Nitrates and nitrites.

Nitrosamines (if monitored).

Metals: lead, arsenic, cadmium, uranium.

Radionuclides: gross alpha/beta, cesium-137, strontium-90, radium-226.

Microbiological results: E. coli, total coliforms, Clostridium spp.,

Cryptosporidium (if tested).

These are included in Annex A for only those regulatory parameters for which NI Water carries out sampling. Not all of those parameters listed above are sampled for by NI Water. Those parameters we are required to sample for under the Water Supply (Water Quality) Regulations (Northern Ireland) 2017 are listed within Schedules 1 and 2 of that legislation.

In addition, NI Water monitors taste and odour compounds Geosmin & MIB as well as Cyanobacteria which is facilitated by Microcystin-LR analysis. Microcystin-LR

analysis evidenced levels below the new EU Drinking Water Directive, which is yet to be transposed into Regulation in Northern Ireland.

<https://www.legislation.gov.uk/nisr/2017/212/contents>

4. Audits & Assessments

The full Drinking Water Inspectorate (DWI) audit report for Lough Fea WTW in 2024.

The DWI did not undertake a technical audit at Lough Fea WTW in 2024. Regulation 12(4)(a) of the EIR therefore applies as detailed below. It should be noted that, had such an audit taken place, the content of it would have been considered exempt from disclosure under Regulation 12(5)(a) of the EIR.

Any internal NI Water or external consultancy reports (2023–2025) assessing Lough Fea WTW's ability to treat cyanotoxins, pesticides, nitrates, or radionuclides.

NI Water does not hold any consultancy reports (2023–2025) assessing Lough Fea WTW's ability to treat cyanotoxins, pesticides, nitrates, or radionuclides. As such, Regulation 12(4)(a) of the EIR again applies.

Any risk assessments undertaken relating to harmful algal blooms (HABs) in Lough Neagh and their potential impact on Lough Fea WTW.

Please be advised that Lough Fea WTW does not abstract raw water from Lough Neagh for treatment. As such, no such risk assessments are held and Regulation 12(4)(a) again applies.

NI Water's underpinning approach to the protection of public health through clean, safe drinking water is the World Health Organisation's Drinking Water Safety Plan (DWSP) approach, which seeks to understand existing and emerging risks to drinking water supplies, from raw water in the environment, through drinking water treatment systems, the drinking water network and right through to the risks posed by customer taps, and ensuring that appropriate and effective control measures are in place.

However, NI Water's DWSP cannot be disclosed to the public domain for security and public safety reasons, and Regulation 12(5)(a) therefore again applies.