

# Site Visit Report

Under the *European Union (Drinking Water) Regulations 2023*, the Environmental Protection Agency (EPA) is the supervisory authority in relation to Uisce Éireann and its role in the provision of public drinking water supplies. This audit was carried out to assess the performance of Uisce Éireann in providing clean and wholesome water to the public water supply named below.

The audit process is a sample of the performance of a water treatment plant and public water supply on a given date.

Water Supply Zone	
<b>Name of Installation</b>	Lough Talt Regional Water Supply
<b>Organisation</b>	Uisce Éireann
<b>Scheme Code</b>	2700PUB2702
<b>County</b>	Sligo
<b>Site Visit Reference No.</b>	SV32038

Report Detail	
<b>Issue Date</b>	19/05/2025
<b>Prepared By</b>	Maria O'Connell

Site Visit Detail			
<b>Date Of Inspection</b>	02/05/2025	<b>Announced</b>	No
<b>Time In</b>	11:00	<b>Time Out</b>	13:25
<b>EPA Inspector(s)</b>	Maria O'Connell		
<b>Additional Visitors</b>			
<b>Company Personnel</b>	Uisce Éireann: Fionnuala Dunbar and Regina Burke. Representing Coffey Water Ltd (working under contract to Uisce Éireann): Enda Commons, Conor Tully, Keith Hodgins, Sean Quigley, Dylan Willis.		

## > Summary of Key Findings

(1) While there is substantial operational control provided by alarms and inhibits at this plant, alarm/shutdown setpoints on the final treated water turbidity are considered to be high. There is a warning alarm level of 0.7 NTU and plant shutdown at 1 NTU. This is sufficient to meet the statutory parametric value of 1 NTU in final treated water but does not align with guidance as provided in *the EPA Water Treatment Manual: Disinfection* and *EPA Advice Note 5: Turbidity*.

(2) UV sensor calibrations were last conducted by the manufacturer in October 2024. The plant calibration records did not contain records of monthly calibration checks on UV sensors as per EPA guidance outlined in the *EPA Water Treatment Manual: Disinfection*.

(3) While alarms were noted to be promptly responded to at this WTP records of alarm responses are not recorded in a manner that allow for periodic review by management to validate the responses taken.

## > Introduction

The Lough Talt Public Water Supply serves approximately 13,282 people. The plant is currently operated under contract by Coffey Water Ltd. Raw water is gravity fed from Lough Talt to a raw water/supernatant storage tank onsite. The maximum design capacity of the water treatment plant is 8,000 m<sup>3</sup>/day with the current daily production rate at approximately 6664m<sup>3</sup>/day. Treatment comprises of coagulation (used when water quality triggers are met), rapid gravity filtration, (there is also provision for GAC filtration but these units are not currently utilised), primary disinfection is provided via UV and a virus targeted dose of chlorine, secondary disinfection is provided via chloramination. pH adjustment and ortho-phosphate dosing also takes place at this water treatment plant.

This audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water focusing on alarms, inhibits and management oversight.

## > Supply Zones Areas Inspected

The audit included an inspection of water treatment processes with site personnel.



## 1. Alarms, Inhibits & Oversight Audits 2025

1.1

Were online monitors within their calibration dates?

Answer

No

**Comment**

1. Flow meters operating within the UV disinfection area were overdue servicing at the time of the audit.
2. Records of monthly calibration checks on UV sensors as per EPA guidance outlined in the *EPA Water Treatment Manual: Disinfection (page 142)* were not recorded in the plant calibration records reviewed at the time of the audit. UV sensor calibration certification for units 1 and 2 were present on site and related to calibrations conducted in October 2024 by Xylem (Manufacturer). This calibration service aligns with the frequency requirements of ÖNORM and DVGW standard requirements for UV Sensors.
3. A letter of confirmation from Xylem (UV unit manufacturer) was submitted by Uisce Éireann detailing validation criteria and the name of the third party assessor. This letter is not a certificate of validation and did not stipulate the method to which the unit was validated to.

1.2

Are suitable alarm settings in place to alert operators to deteriorating water quality or the failure of a critical treatment process?

Answer

Yes

**Comment**

1. There is a final water turbidity warning alarm setpoint of 0.7 NTU and plant shutdown at 1 NTU. While such settings meet the statutory requirement of 1NTU for disinfection the EPA recommends that treatment plants should be optimised to obtain turbidity levels of <0.2 NTU in the final water where there is a risk of the presence of Cryptosporidium in the raw water (as per *EPA Advise Note 5: Turbidity*).
2. Treated water turbidity trends reviewed on site indicated turbidity levels consistently above 0.2 NTU in March and April 2025.

1.3

Is there appropriate oversight of alarm responses?

Answer

No

**Comment**

1. While alarms were noted to be promptly responded to at this WTP, records of alarm responses are not recorded in a manner that allow for periodic review by management to validate the responses taken.

1.4

Are there appropriate procedures covering verification of alarms and inhibits status following maintenance or other work on site?

Answer

No

**Comment**

1. While the site operator outlined that all maintenance work is supervised on site and that verification of alarm and inhibits status settings is undertaken following maintenance works, this action was not detailed in the site alarm response procedure



## 2. Site Specific Issues

2.1

Are the filters designed and managed in accordance with EPA guidance?

Answer

No

**Comment**

1. Algae was observed in the water and on the walls of the filter equalizer tanks. The site operator outlined that these tanks are cleaned at a less frequent rate than the filters and channels due to access issues. The site operator outlined that works are underway to ensure that these tanks are cleaned.

2. Filter maintenance records as per *EPA Water Treatment Manual: Filtration* were not available at the time of the audit.

2.2

Is the distribution network adequately maintained to protect drinking water quality

Answer

Yes

**Comment**

1. Distribution network monitoring is undertaken for total chlorine, free ammonia and monochloramine. Results demonstrate the efficacy of disinfection via the presence of monochloramine levels in excess of >0.4mg/l.

2. Details of the routine maintenance programme for the distribution network were not available on site.

2.3

Is the lake inlet area maintenance programme available?

Answer

No

**Comment**

1. The lake intake area is not under the remit of the plant operator. Uisce Éireann was requested to confirm details on the maintenance programme for this area during the site audit.

2.4

Are investigations underway regarding rationalisation of this water supply?

Answer

Yes

**Comment**

1. Planning was granted for Lough Talt Water Treatment Plant under the Imperative Reasons of Overriding Public Interest (IROPI) process in May 2019. Uisce Éireann is currently undertaking investigations regarding the rationalisation of this supply with Ballina PWS.

## Recommendations

Subject	Lough Talt Audit 2025	Due Date	19/06/2025
Action Text	<p><b>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.</b></p> <ol style="list-style-type: none"> <li>1. Submit details on the progress of investigation works and proposals to date regarding the rationalisation of Lough Talt PWS.</li> <li>2. Minimise turbidity levels in the final treated water to reduce the risk of potential shielding of microorganisms from the effects of UV treatment and amend alarm and inhibit setpoints having regard to EPA guidance on turbidity applicable to final water from high <i>Cryptosporidium</i> catchments in the <i>EPA Water Treatment Manual: Disinfection and Advice Note 5: Turbidity</i>.</li> <li>3. Submit the UV validation certificate issued by the third party assessors for the Xylem (Wedeco) LBX850e UV units detailing the standard to which the units are validated to.</li> <li>4. Submit the amended alarm response procedure for the site which incorporate (a) confirmation of alarm and inhibit status post maintenance/contractor work onsite and (b) a mechanism to record alarm responses and periodic management oversight of this action.</li> <li>5. Progress cleaning of the filter equaliser tanks and ensure a record of filter maintenance is undertaken as per <i>EPA Water Treatment Manual: Filtration</i>.</li> <li>6. Submit details on the inspection and maintenance programme for (a) the lake intake and (b) the distribution network.</li> <li>7. Confirm that the flow meters on site have been serviced.</li> </ol> <p><b>Actions required by Uisce Éireann</b></p> <p>During the audit, Uisce Éireann representatives were advised of the audit findings and that action must be taken by Uisce Éireann to address the issues raised.</p> <p>Uisce Éireann should submit a report to the EPA on or before 19/06/2025 detailing the actions taken and planned, with timescales, to close out the above recommendations.</p> <p>The EPA advises that the findings and recommendations from this audit report should, where relevant, be addressed at other public water supplies.</p>		