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

Name of Installation	Belturbet P.W.S.
Organisation	Uisce Éireann
Scheme Code	0200PUB0108
County	Cavan
Site Visit Reference No.	SV34827

Report Detail

Issue Date	17/06/2026
Prepared By	Mary Grimes

Site Visit Detail

Date Of Inspection	13/05/2026	**Announced**	Yes
Time In	10:56	**Time Out**	13:35
EPA Inspector(s) **Additional Visitors**	Mary Grimes Veronica Boland		
Company Personnel	Cavan County Council (working in partnership with Uisce Éireann): John Fay. Uisce Éireann: Regina Burke, Leon Conaty, John Mc Donald		

Summary of Key Findings

1) The shutdown time delays for final water turbidity and final water chlorine residual were not in accordance with the recommended times as per the *EPA water treatment manuals: Filtration & Disinfection.*

2) Network chlorine residuals are monitored in the Belturbet water supply once per week. This should be increased to several times per week.

Uisce Éireann should submit a report to the EPA on or before 27/06/2026 detailing the actions taken and planned, with timescales, to close out the 12 recommendations in this audit report.

Introduction

The Belturbet public water supply abstracts water from the River Erne, produces approximately 770 m3/day of treated water and serves a population of 2,159 (EDEN figure). The water treatment process comprises of potassium permanganate treatment to remove manganese, coagulation with aluminium sulphate, flocculation, clarification and filtration in a dissolved air flotation and filtration treatment unit, disinfection with sodium hypochlorite, pH correction on the final water, and fluoridation. The treated water is pumped to a high level reservoir tower above the water treatment plant.

Supply Zones Areas Inspected

The treatment processes and associated equipment. Chemical storage and dosing facilities.

1. Filtration

		Answer
1.1	Are the filters designed and managed in accordance with EPA guidance?	No

Comment

At the time of the audit, Uisce Éireann was not able to provide details of the current filer media depth. Uisce Éireann advised that the filter media was last replaced in 2017and that the filter media depth would be measured when rotation chains in the DAFF are next serviced.

Recommendation:

1.Implement measures to ensure that filter media depths are maintained in line with depths recommended in the *EPA Water Treatment Manual: Filtration.*

2. Operational Audits 2026

		Answer
2.1	Is there a suitable monitoring frequency for residual chlorine in the network with records available?	No

Comment

1. While records reviewed at the audit indicated compliant chlorine residual results in the network, it was noted that this monitoring was only being undertaken once per week. In this regard Uisce Éireann referred resource issues which were being addressed with new personnel currently undergoing training.

Recommendation:

2. Carry out monitoring of residual chlorine several (two to three) times per week at different points of the network to include network extremities.

		Answer
2.2	Is there a documented alarm response procedure?	No

Comment

1. There was no documented site-specific alarm procedure in place at the water treatment plant setting out how alarms should be responded to and acted on to protect water quality and public health.

Recommendation:

3. Put in place a site-specific documented procedure at the WTP for: (i) responding to and escalating all alarms generated at the WTP, and (ii) verifying alarms and inhibits status following maintenance or other work at the WTP. The procedure should clearly document the corrective actions and set out delegation of responsibilities. All relevant staff must be trained on the documented alarm response procedures.

		Answer
2.3	Are suitable plant shutdowns/inhibits in place to prevent the entry of inadequately treated water entering the distribution network?	No

Comment

1. The time delay for the chlorine residual shutdown setpoint was 30 minutes. This time delay is not in accordance with the recommended 5 minutes specified in the *EPA Water Treatment Manual: Disinfection.*

2. The backwash trigger alarm setpoint, based on turbidity, is 0.3NTU with a 20 minute time delay. This time delay was not in accordance with the *EPA Water Treatment Manual: Filtration.*

3. The final/treated water turbidity (QT03) shutdown setpoint at the WTP was 0.7 NTU with a 15 minute time delay. This turbidity shutdown time delay is not in accordance with the 3 minute time delay recommended in the *EPA Water Treatment Manual: Filtration.*

4. The final water pH monitor had a 'Low' shutdown of pH 6, and had no shutdown linked to 'High' pH. Under the Drinking Water Regulations 2023 as amended, the acceptable pH in treated drinking water is between 6.5 and 9.5 pH.

Recommendation:

4. Review and amend the time delay for the chlorine residual shutdown setpoint in line with the *EPA Water Treatment Manual: Disinfection.*

5. Review and amend the time delay for the filter backwash trigger in line with the *EPA Water Treatment Manual: Filtration.*

6. Review and amend the time delay for the treated water turbidity shutdown setpoint in line with the *EPA Water Treatment Manual: Filtration.*

7. Provide a shutdown linked to final water 'high' pH and implement final pH shutdown setpoints ('high' and 'low') to ensure treated water is within the parametric value of the Drinking Water Regulations 2023.

		Answer
2.4	Are suitable alarm settings in place to alert operators to deteriorating water quality and/or the failure of a critical treatment process?	No

Comment

1. The chlorine residual 'LoLo' shutdown was set at 0.0mg/l. The EPA Water Treatment Manual: Disinfection recommends low level chlorine residual shutdown should be at a maximum of 0.1mg/l below the target concentration (with a 5 minute time delay). It is noted that the target chlorine residual for the Belturbet WTP was 0.3mg/l.

2. The final water turbidity setpoint was 0.3 NTU with a time delay of 15 minutes. This time delay is not in accordance with the 3 minute time delay recommended in the *EPA Water Treatment Manual: Filtration.*

Recommendation:

8. Review and amend as appropriate the chlorine residual (post contact time) shutdown setpoints in accordance with the *EPA Water Treatment Manual: Disinfection*.

9. Review and amend the final water turbidity shutdown setpoint and time delay in line with the *EPA Water Treatment Manual: Filtration.*

		Answer
2.5	Is there appropriate oversight of plant performance?	No

Comment

1. There is no local system for supervisory checks of the plant performance trends at the Belturbet WTP. Uisce Éireann representatives advised that oversight of both plant performance trends and alarms is undertaken by the National Operations Management Centre (NOMC). Supervisors receive notification of alarm dial outs but there is no routine review of alarm responses made. or of plant performance trends.

Recommendation:

10. Ensure the review and oversight by supervisory staff of plant performance trends is undertaken regularly to assist in the operation of the Belturbet WTP

3. Site Specific Issues

		Answer
3.1	Additional items raised at audit?	Yes

Comment

1. A build up of algae was noted on the coagulation/flocculation tank walls.

2. Uisce Éireann noted during the audit that issues with the location of the raw water turbidity monitor were creating false readings on the turbidity monitor that had triggered plant shutdowns.

Recommendation:

11. Investigate the options available to clean the coagulation/flocculation tank walls.

12. Investigate the feasibility of relocating the sample point for the raw water turbidity monitor.

Recommendations

Actions required by Uisce Éireann

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.

Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the recommendations raised in this report without delay.

Response to Audit Report

Uisce Éireann should submit a report to the EPA on or before the date specified in the Summary of Key Findings detailing the actions taken and planned, with timescales, to close out the recommendations in this audit report.

The EPA advises that the findings and recommendations from this report should, where relevant, be addressed at other public water supplies.

Publication of Reports

Audit reports are published to the EPA's website, www.epa.ie, typically 1 month after the audit report is issued to Uisce Éireann.