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	Banagher PWS
Organisation	Uisce Éireann
Scheme Code	2500PUB1001
County	Offaly
Site Visit Reference No.	SV32577

Report Detail

Issue Date	12/06/2025
Prepared By	Lisa Noone

Site Visit Detail

Date Of Inspection	28/05/2025	**Announced**	Yes
Time In	13:30	**Time Out**	15:45
EPA Inspector(s) **Additional Visitors**	Lisa Noone		
Company Personnel	Uisce Éireann: Linda Doran, Roisin Byrne, John Daly, Roger Larkin, Timothy Ryan		

Summary of Key Findings

1.The audit found a lack of control over treatment at Banagher Water Treatment Plant (WTP), there is no automatic shutdown of the plant in the event of high or low residual chlorine or high turbidity, and the *Cryptosporidium* barrier is not fully protected by suitable inhibits on rapid gravity filters as set out in the *EPA Water Treatment Manual: Filtration* to prevent the entry of inadequately treated water to the supply.

2. There is no automatic switchover between the chlorine dosing pumps in the event of failure of the duty pump.

3. Uisce Éireann stated at the audit that an upgrade to Banagher WTP is scheduled for commencement in 2025.

Introduction

The Banagher Public Water Supply (PWS) supplies an average of 1,200 m3/day of water, serving a population of approximately 2,500 people. Raw water is abstracted from (i) the River Shannon with treatment at Banagher Water Treatment Plant (WTP), and (ii) two wells at Clontotan with treatment at Clontotan WTP. Treatment at Banagher WTP consists of coagulation, flocculation, clarification (CFC), rapid gravity sand filtration via two filters, and disinfection via chlorination. Treatment at Clontotan WTP consists of chlorine disinfection only. Treated water is pumped to off-site reservoirs at Mullaghakaraun and Cloghan.

The audit was undertaken to assess progress on outstanding recommendations from the EPA audit carried out in 2023, and to assess Uisce Éireann's performance in producing clean and wholesome water with a focus on the alarms and inhibits in place at the WTP and the procedures in place to ensure appropriate oversight of treatment processes.

Supply Zones Areas Inspected

All treatment processes at Banagher WTP were inspected as part of the audit. The raw water source at the Shannon River was not inspected, and Clontotan WTP and boreholes were not inspected as part of the audit.

1. Alarms, Inhibits & Oversight Audits 2025

		Answer
1.1	Is continuous monitoring located appropriately to verify treatment performance?	No

Comment

1. Uisce Éireann could not determine if the turbidity monitor measured combined filter turbidity or final water turbidity post-chlorination.

2. Turbidity trends and live readings for this monitor are not visible on the SCADA system and are reviewed and recorded by the plant operators via the turbidity monitor only.

3. Regular spikes are recorded for settled water turbidity. The turbidity probe for the settled water turbidity 1 monitor is located in the channel between the clarifier and rapid gravity filters, and low water levels in this channel are common due to the plant shutting on and off.

4. The inlet chlorine residual monitor for Clontotan reservoir experiences regular erratic reading meaning any potential chlorine dosing issues prior to entering the reservoir are not captured. These live readings and trends associated with this monitor are not visible on the SCADA system for the WTP.

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

Comment

1. There is no automatic shutdown of the plant in the event of high/low chlorine residual or high turbidity. Uisce Éireann stated at the audit that the current infrastructure does not facilitate auto shutdown due to the limited capacity of the clearwater tank.

2. Alarms are triggered in the event that filtered turbidity exceeds 0.3 NTU for 5 minutes, however, there is no inhibit linked to this alarm to ensure that the *Cryptosporidium* barrier is maintained. Backwashes are not triggered in event that the filtered water turbidity exceeds the operational target of 0.3 NTU, or in the event of head loss in accordance with the requirements of the *EPA Water Treatment Manual: Filtration*. Uisce Éireann stated that automatic backwashes cannot currently be achieved due to various infrastructural issues at the plant including the capacity of the clearwater tank. Individual filters are backwashed on a manual basis every second day.

3. These above issues were raised at a previous EPA audit in 2023. Uisce Éireann stated at the audit that the WTP is scheduled to be upgraded to 2025 to address these issues.

		Answer
1.3	Is there a documented procedure for responding to specific alarms?	No

		Answer
1.4	Are there appropriate procedures covering verification of alarms and inhibits status following maintenance or other work on site?	No

2. Site Specific Issues

		Answer
2.1	Is there automatic switchover of chlorine dosing pumps?	No

Comment

1. There is no automatic switchover of the chlorine dosing pumps in the event of a failure of the duty pump. Chlorine dosing pumps are manually switched over every 3 weeks.

Recommendations

Subject	Banagher PWS Audit Recommendations	Due Date	14/07/2025
Action Text	**Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.** 1. Provide details of the WTP upgrade to commence in 2025 and confirm that (i) automatic shutdown of the plant, (ii) appropriate backwash controls, (iii) automatic switchover of chloring dosing pumps, and (iv) SCADA enhancements will be included in the scope of works. 2. Repair the chlorine residual monitor to capture any potential chlorine dosing issues prior to entering Clontotan reservoir. 3. Turbidity monitors: (i) Confirm the location of the combined/final water turbidity monitor and (ii) ensure that the settled water turbidity monitor is located appropriately and giving representative results. 4. Develop a procedure and deliver appropriate training (i) covering the verification of alarms/shutdowns status following maintenance or other works completed at the treatment plant, and (ii) for responding to and escalating all alarms generated at the water treatment plant. Both procedures should clearly document the corrective actions and set out delegation of responsibilities. **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 should submit a report to the EPA on or before the above date detailing the actions taken and planned, with timescales, to close out the above recommendations. The EPA advises that the findings and recommendations from this audit report should, where relevant, be addressed at other public water supplies.		