

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	Clonakilty
Organisation	Uisce Éireann
Scheme Code	0500PUB4301
County	Cork
Site Visit Reference No.	SV29535

Report Detail	
Issue Date	03/05/2024
Prepared By	Paul Buckley

Site Visit Detail			
Date Of Inspection	18/04/2024	Announced	No
Time In	13:55	Time Out	16:15
EPA Inspector(s)	Paul Buckley		
Additional Visitors			
Company Personnel	Uisce Éireann: Claire Hurley, Donal O'Laoghaire, Cormac Bergin. Cork County Council (working in partnership with Uisce Éireann): Pauline McAree, William McCarthy, Michael Russell, Anthony Keleher, Séamus Sutton.		

> Summary of Key Findings

1. There are significant upgrade works ongoing at the water treatment plant. The current date for completion of the works is the end of October 2024.
2. The protozoal log treatment requirement for the water treatment plant has not been determined pending the completion of a sanitary survey.
3. There are no high turbidity alarms or shutdowns associated with the final water at the Clonakilty water treatment plant. Final water high turbidity alarm and the associated shutdown are being installed as part of the ongoing upgrade works. There are alarms and shutdowns on all individual filters. *Cryptosporidium* monitoring is ongoing within the supply and there have been no detections to date.

> Introduction

The Clonakilty Public Water Supply (PWS) supplies an average of 9,000 m³/day of water, serving a population of 13,250 people. The volume supplied figure is not reflective of the volume supplied on the EPA EDEN system.

The source of the supply is the Arideen River, located adjacent to the water treatment plant (WTP). Treatment consists of coagulation, flocculation, clarification, rapid gravity filtration, chlorination, and fluoridation. The supply is supplemented by the Bandon Public Water Supply as required.

The audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water with a focus on the protozoal barriers in place at the water treatment plant.

> Supply Zones Areas Inspected

The raw water intake, coagulant injection point, clarifier tanks, rapid gravity filters and the chlorine dosing system at the water treatment plant were inspected.



1. Protozoal Barriers Audits 2024

	Answer	
1.1	Has UÉ identified the protozoal compliance log treatment requirement for the water treatment plant?	No
Comment		
The protozoal compliance log treatment requirement has not been identified for the water treatment plant. The sanitary survey has not been completed.		

	Answer	
1.2	Are the filters designed and managed in accordance with EPA guidance?	No
Comment		
1. The filter media depth for the 6 no. individual filters was confirmed to be 700 mm which is below the recommended minimum depth of 1000 mm as per the <i>EPA Water Treatment Manual: Filtration</i> .		
2. There are no automatic backwash facilities based on turbidity, headloss, or time, in place. Filter backwashing is triggered manually at the plant and each filter is routinely backwashed every third day, or more frequently as required.		

	Answer	
1.3	Did treatment process trends demonstrate that data was being captured and recorded at all times?	No
Comment		
1. On 12/03/2024 the turbidity monitor associated with Filter 2 on the Phase 2 stream at the water treatment plant went offline, and remained offline until 08/04/2024. The issue was noted immediately by on-site staff and notified to the Line Manager as per the UÉ incident escalation procedure. Following review by the on-site Line Manager, the issue was not escalated to UÉ. The filter remained in operation for the aforementioned period of time.		
2. The issue was identified as a hardware fault with the monitor. Data prior to the turbidity monitor going offline showed no issues, and data after the monitor was fixed showed no issues with the filter. The settled water turbidity remained stable throughout the two week period, and the turbidity trends of the adjoining filters showed no issues.		
3. The lack of turbidity monitoring on Filter 2 impacts on verification of the protozoal barrier during the period 12/03/2024 to 08/04/2024.		
4. The turbidity monitor was functional on the day of the audit and turbidity trends were below the 0.3 NTU limit.		

	Answer	
1.4	Are there suitable plant controls to prevent inadequately treated water entering the distribution network?	No

Comment

1. Backwash controls are not in line with EPA Guidance, refer to question 1.2.
2. There is no turbidity monitor with associated alarms and shutdowns for the final water at the water treatment plant.

Answer

- 1.5 Are alarms and shutdowns on each filter, on the combined filtered water and final water in accordance with the EPA Filtration Manual? No

Comment

1. Turbidity monitoring is not undertaken in line with EPA guidance, refer to question 1.4.
2. *Cryptosporidium* monitoring is currently undertaken 4 times per year in the supply and there have been no detections to date.

Answer

- 1.6 Are relevant alarms dialled out to allow a timely response by operational staff? No

Comment

There is no turbidity monitor with associated alarms and shutdowns for the final water at the water treatment plant.

Recommendations

Subject	Clonakilty Audit Recommendations 18042024	Due Date	03/06/2024
Action Text	<p>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.</p> <ol style="list-style-type: none"> 1. i) Confirm the protozoal log treatment requirement for the water treatment plant, ii) provide details of how any protozoal log treatment deficit, if identified, will be addressed, and iii) continue to monitor the supply in accordance with Uisce Éireann's Rationale for Determining the Frequency of <i>Cryptosporidium</i> Monitoring in Public Water Supplies. 2. i) Install turbidity monitors with appropriate alarms and inhibits on each filter and on the final water to verify that the plant operates in accordance with the log credit approach as set out in the EPA Filtration Manual and ii) install automatic shutdown for turbidity in the final water if > 1 NTU (3 minutes delay). 3. i) Ensure that all plant monitors are operational at all times, ii) in the event of an issue impacting the verification of the protozoal barrier at the plant, the issue should be assessed and escalated in line with EPA Guidance, and iii) in the event of a monitor failure, ensure appropriate remedial actions are taken to restore the monitor in a timely fashion, and that manual monitoring is undertaken until such a time that the monitor is restored. 4. i) Assess the feasibility of increasing the filter media depth in line with the depths set out in <i>EPA Water Treatment Manual: Filtration</i>, ii) install automatic backwashing of the 3 no. individual filters based on turbidity, headloss, and time, and iii) assess the feasibility of providing a run to waste facility following filter backwash. 5. Submit a programme of works, including timeframes, for the completion of the upgrade works on-going at the plant. <p>Actions required by Uisce Éireann</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 03/06/2024 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>		