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	Innishannon
Organisation	Uisce Éireann
Scheme Code	0500PUB3501
County	Cork
Site Visit Reference No.	SV31976

Report Detail

Issue Date	01/04/2025
Prepared By	Paul Buckley

Site Visit Detail

Date Of Inspection	04/03/2025	**Announced**	Yes
Time In	09:55	**Time Out**	11:10
EPA Inspector(s) **Additional Visitors**	Paul Buckley		
Company Personnel	Uisce Éireann: Claire Hurley, Brian Flinn Cork County Council (working in partnership with Uisce Éireann): Pauline McAree, Martin Lehane, Joseph Riggs, Mary Hickey.		

Summary of Key Findings

1. Uisce Éireann confirmed that the Innishannon public water supply source has a protozoal log treatment requirement of 4 log. Currently treatment at the plant would provide 3 log credit if operated in accordance with the log credit performance approach. This gives a -1 log treatment deficit. Uisce Éireann's intention is to review the Source and Sanitary survey to determine if the protozoal log treatment requirement can be adjusted. Monitoring for *Cryptosporidium* will continue until the log deficit is addressed. All monitoring has been clear to date.

2. There is no turbidity monitor with alarms and inhibits for the combined filtered water or final water at the plant and therefore the plant is not being operated in accordance with the log credit performance approach.

3. The Innishannon water treatment plant is well operated and managed on a day to day basis.

Introduction

The Innishannon Public Water Supply (PWS) serves a population of 21,285 with an average output of 8,458 m3/day. These figures are not reflective of the information on the EPA EDEN system.

Raw water is obtained from the River Bandon, approximately 2 kms from the plant. Treatment consists of coagulation, flocculation and clarification followed by rapid gravity filtration, pH correction, chlorination and fluoridation.

The audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water with a focus on the alarms and inhibits in place at the treatment plant and the procedures in place to ensure appropriate oversight of the treatment processes.

Supply Zones Areas Inspected

The chemical storage tanks, chemical dosing points, clarifier tanks, the rapid gravity filtration system, the chlorination disinfection system and the fluoridation system were inspected.

1. Filtration

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

Comment

The filter media depth in the 4 no. rapid gravity filters was less then the recommended depth of 1000 mm as per the EPA Water Treatment Manual: Filtration, ranging from 450 mm to 600 mm.

Trends for the filtered water turbidity from the 4 no. filters show that the turbidity is generally below 0.3 NTU.

2. Management and Control

		Answer
2.1	Has the protozoal compliance log treatment requirement been identified for the water treatment plant?	Yes

Comment

Uisce Éireann have determined that the Innishannon PWS source has a 4 log protozoal treatment requirement. Currently treatment at the plant provides 3 log credit if operated in accordance with the log credit performance approach. Turbidity monitoring results for the 4 no. filters is generally below 0.3 NTU.

In order to address the - 1 protozoal log treatment deficit, Uisce Éireann are undertaking a review of the Source and Sanitary survey. Monitoring for *Cryptosporidium* is ongoing and all results have been compliant to date.

3. Alarms, Inhibits & Oversight Audits 2025

		Answer
3.1	Is suitable continuous monitoring in place to verify treatment performance?	No

Comment

There is no turbidity monitor with associated alarms and inhibits in place for the combined filtered water or the final water at the water treatment plant.

Turbidity monitoring results from the 4 no. individual filters is generally below 0.3 NTU.

Recommendations

Subject	EPA Audit Recommendations - Innishannon 2025	**Due Date**	01/05/2025
Action Text	**Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendation(s) without delay.** 1. (i) Provide details on how the protozoal log treatment deficit is to be addressed, and (ii) Continue monitoring for *Cryptosporidium* as per Uisce Éireann's Rationale for Determining the Frequency of *Cryptosporidium* Monitoring in Public Water Supplies. 2. Install turbidity monitors with appropriate alarms and inhibits on the combined filtered water to verify that the plant operates in accordance with the log credit approach as set out in the EPA Water Treatment Manual: Filtration. 3. Increase depth of sand media in each filter, where feasible, to 1000mm as per the EPA Water Treatment Manual: Filtration. **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 01/05/2025 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.		