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	Coolderry PWS
Organisation	Uisce Éireann
Scheme Code	2500PUB1005
County	Offaly
Site Visit Reference No.	SV29581

Report Detail

Issue Date	01/05/2024
Prepared By	Lisa Noone

Site Visit Detail

Date Of Inspection	05/04/2024	**Announced**	Yes
Time In	11:30	**Time Out**	12:30
EPA Inspector(s) **Additional Visitors**	Lisa Noone		
Company Personnel	Uisce Éireann: Linda Doran, Joseph Moran, John Daly Offaly County Council (in partnership with Uisce Éireann): Michael Daly, Clodagh Graham		

Summary of Key Findings

1. The audit of Coolderry Water Treatment Plant (WTP) found that alarms set points and time delays in place were inadequate for chlorine residual and turbidity.

2. The borehole was not appropriately capped or secured to ensure that it is protected in accordance with *EPA Advice Note No. 14: Borehole Construction and Wellhead Protection.*

3. An appropriate cascade system and associated procedures are not in place for responding to alarms generated at the plant allowing for verification that an alarm has been responded to.

Introduction

The Coolderry Water Supply (PWS) produces circa. 60 m3/day of water serving a population of approximately 120 people. Raw water is abstracted from a single borehole located at Coolderry WTP. Treatment at the WTP consists of primary disinfection by UV via duty and standby UV units, and secondary disinfection by chlorination. Treated water is then supplied directly to the network.

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 WTP and the procedures in place to ensure appropriate oversight of treatment processes.

Supply Zones Areas Inspected

The borehole was inspected as part of the audit, in addition to treatment processes on-site.

1. Source Protection

		Answer
1.1	Is the abstraction source(s) adequately protected against contamination?	No

Comment

1. The borehole was housed in a manhole in the grounds of the Coolderry GAA Club approximately 30 metres from the WTP. It was not appropriately capped or located within a secure kiosk or chamber and therefore vulnerable to contamination by surface water ingress.

2. Alarms, Inhibits & Oversight Audits 2024

		Answer
2.1	Were online monitors within their calibration dates?	No

Comment

1. The OMNI flow meter was not within its calibration date and was overdue since March 2023.

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

Comment

1. The following setpoints are in place at the WTP for chlorine residual and turbidity, with a 15 minute time delay:

Chlorine residual:

- low low (shutdown): 0.3 mg/l;
- low (alarm): 0.2 mg/l

Turbidity:

- high (alarm): 0.8NTU
- high high (shutdown): 1NTU

2. Whilst a chlorine residual in excess of 0.1mg/l is being maintained in the network, the low and low-low chlorine alarm set-points are below the target final water chlorine residual concentration of leaving the WTP. In addition, the low and low low alarms are not appropriate to ensure that treated water at the extremities of the distribution network contains at least 0.1 mg/l residual chlorine to confirm adequate disinfection.

3. The 15 minute time delay for both chlorine residual and turbidity is considered too long to allow a timely and effective response by operational staff.

		Answer
2.3	Are dial out arrangements suitable to allow a timely response?	No

Comment

1. Critical alarms are dialled-out on a group-basis to the site caretakers and operational personnel. Alarms are responded to on a hierarchical basis, depending on who is on-call, however there is no way of verifying that alarms have been responded to.

		Answer
2.4	Is there a documented alarm response procedure?	No

Recommendations

Subject	Coolderry PWS Audit Recommendations	**Due Date**	02/06/2024
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. Ensure that boreholes in use are constructed, sealed and protected in accordance with *EPA Advice Note No. 14: Borehole Construction and Wellhead Protection.* 2. Calibrate and maintain monitors in accordance with the manufacturer's instructions. 3. Review alarm set points and time delays in place for chlorine residual and turbidity. 4. Put in place an appropriate cascade system for responding to alarms generated at the plant which allows for verification that an alarm has been responded to. 5. Put a documented procedure in place for responding to and escalating all alarms generated at the WTP. The procedure should clearly document the corrective actions and set out delegation of responsibilities for operational and relief staff. Ensure all staff are trained in procedure. **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.		