

# 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	
<b>Name of Installation</b>	Ballivor
<b>Organisation</b>	Uisce Éireann
<b>Scheme Code</b>	2300PUB1002
<b>County</b>	Meath
<b>Site Visit Reference No.</b>	SV32030

Report Detail	
<b>Issue Date</b>	13/03/2025
<b>Prepared By</b>	Lisa Noone

Site Visit Detail			
<b>Date Of Inspection</b>	21/02/2025	<b>Announced</b>	Yes
<b>Time In</b>	13:30	<b>Time Out</b>	14:50
<b>EPA Inspector(s)</b>	Lisa Noone		
<b>Additional Visitors</b>			
<b>Company Personnel</b>	Uisce Éireann: Joseph Moran, Daniel Pusz, Conor Flanagan Meath County Council (working in partnership with Uisce Éireann): Martin Gallagher		

## > Summary of Key Findings

1. Kilmurray Water Treatment Plant serving Ballivor Public Water Supply was operating satisfactorily on the day of the audit.
2. Alarms and inhibit setpoints and time delays in place for chlorine residual and turbidity were not adequate to protect disinfection.
3. There was no documented procedure in place for responding to and escalating alarms generated at the water treatment plant, or for verification of alarm/inhibit status following maintenance at the WTP.

## > Introduction

Ballivor Public Water Supply (PWS) produces circa. 500 m<sup>3</sup>/day of water serving a population of approximately 2,200 people. Raw water is abstracted from a single borehole located at Kilmurray Water Treatment Plant (WTP). Treatment at the WTP consists of pre-chlorination for oxidation of iron and manganese, pressure filtration, primary disinfection via UV, and secondary disinfection by chlorination. Treated water is then pumped to Ballivor water tower located off site. Works on a new service reservoir for the Ballivor PWS to increase treated water storage capacity are to commence in Q1 2025 and are expected to be completed by Q1 2026.

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 and treatment processes on-site were inspected as part of the audit. The off-site tower reservoir in Ballivor was not inspected.



## 1. Alarms, Inhibits & Oversight Audits 2025

		Answer
1.1	Is there a documented site specific incident response and incident escalation process?	Yes
	<b>Comment</b>	
	1. The Uisce Éireann incident escalation flowchart was displayed at the WTP. However, a time delay of 15 minutes was recorded on the flowchart for UV dose and UVI, this did not match the time delays set on the system of 1 minute and 3 minutes respectively.	
		Answer
1.2	Are suitable alarm settings in place to alert operators to deteriorating water quality or the failure of a critical treatment process?	No
	<b>Comment</b>	
	1. Alarm and inhibit setpoints are in place at the WTP for chlorine residual, however the 35 minute time delay in place is considered too long to allow a timely and effective response by operational staff and to ensure a chlorine residual in excess of 0.1mg/l is being maintained in the network.	
	2. A combined filter turbidity alarm of 1NTU for 15 minutes is in place post pressure filters and prior to UV disinfection. Uisce Éireann could not confirm at the time of the audit if this initiated a shutdown of the plant or an alarm only. The 15 minute time delay is also considered too long to ensure a turbidity of less than 1NTU prior to UV disinfection.	
	3. Similar findings were noted in a previous EPA audit in 2021 and follow-up information provided by Uisce Éireann stated that these recommendation had been addressed and marked as complete.	
		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

## Recommendations

Subject	Ballivor Audit Recommendations	Due Date	14/04/2025
Action Text	<p><b>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.</b></p> <ol style="list-style-type: none"><li>1. Review and confirm alarm set points and time delays in place for chlorine residual and turbidity.</li><li>2. Ensure that the Uisce Éireann Incident Communication Response Guidance Form displayed at the WTP contains site specific information including contacts for escalation and relevant site specific trigger levels protecting critical processes at the WTP.</li><li>3. 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.</li></ol> <p><b>Actions required by Uisce Éireann</b></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 the above due date 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>		