

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	Kilmainhamwood
Organisation	Uisce Éireann
Scheme Code	2300PUB1012
County	Meath
Site Visit Reference No.	SV32034

Report Detail	
Issue Date	20/08/2025
Prepared By	Lisa Noone

Site Visit Detail			
Date Of Inspection	23/07/2025	Announced	Yes
Time In	10:30	Time Out	12:15
EPA Inspector(s)	Lisa Noone		
Additional Visitors			
Company Personnel	Uisce Éireann: Joseph Moran, Conor Flanagan, Abby Connolly, Gerard Kelly, Ivan Corcoran Meath County Council (working in partnership with Uisce Éireann): Conor Grey		

> Summary of Key Findings

1. The audit found that Kilmainhamwood Water Treatment Plant was operating satisfactorily on the day of the audit.
2. The new on site borehole which was drilled in 2022 is intended to become the main production well for the Water Treatment Plant, however, it has not yet been brought into production due to ongoing yield testing.
3. Alarms and inhibits in place for chlorine residual and turbidity were not appropriate to ensure a timely and effective response by operational staff and to ensure adequate disinfection prior to distribution to the network.

> Introduction

Kilmainhamwood Public Water Supply (PWS) produces circa. 244 m³/day of water serving a population of approximately 400 people. Raw water is abstracted from two existing boreholes, Eden and Boynagh. A new borehole was drilled in 2022 but is not yet in production. Treatment consists of pre-chlorination to aid in the removal of iron and manganese, and pressure filtration, the filtered water is then chlorinated prior to entry to the onsite reservoir.

The audit was undertaken to assess progress on outstanding recommendations from the EPA audit carried out in 2022, 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 and the new borehole at Kilmainhamwood WTP were inspected as part of the audit.



1. Filtration

1.1

Are the filters designed and managed in accordance with EPA guidance?

Answer

No

Comment

1. There is currently no run-to-waste or slow start after backwashes, this was raised at the previous EPA audit in 2022.

2. Uisce Éireann have stated that a site assessment report has been completed however due to budget constraints this has not been progressed.



2. Management and Control

2.1

Is the water treatment plant resilient enough to cope with significant variations in raw water quality or demand?

Answer

No

Comment

1. A new borehole was drilled onsite in 2022 which is not yet in production. The new well is intended to replace the Boynagh borehole which is to be taken out of production while leaving the Eden borehole as a backup source when required.

2. Upon trialling the new borehole, the production yield was less than predicted from initial yield testing. As such, the new borehole has not yet been brought into production, and is awaiting further yield testing in Q3 2025.

2.2

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

Answer

Yes

Comment

1. A protozoal log treatment requirement of 3 has been assigned to the WTP for the two existing boreholes since the previous audit in 2022.

2. This score does not include the new production borehole. A default log treatment requirement of 3 has been applied until a source and sanitary survey is complete for the new borehole.



3. Alarms, Inhibits & Oversight Audits 2025

		Answer
3.1	Were online monitors operational?	No
Comment		
1. Issues were noted on site and upon inspection of final water turbidity trends. Uisce Éireann stated that the final water turbidity monitor probe is faulty and a new replacement probe has been ordered.		

		Answer
3.2	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 Kilmainhamwood WTP for chlorine residual and turbidity:		
<ul style="list-style-type: none">The low low setpoint for chlorine residual at Ct verification point is 0.3mg/l for 15 minutes. According to the WTPs site-specific Ct calculation, a minimum chlorine residual concentration of 0.29mg/l is required at the Ct validation point. This alarm set point does not reflect the WTPs Ct calculation requirement. In addition, the 15 minute time delay is not in line with the requirements of the <i>EPA Water Treatment Manual: Disinfection</i>.A 15 minute time delay is in place for final water turbidity. This time delay is considered too long to ensure a turbidity of less than 1NTU for adequate disinfection.		

		Answer
3.3	Are dial out arrangements suitable to allow a timely response?	No
Comment		
1. Critical alarms are dialled-out on a group-basis to 3 operational personnel and are responded to depending on whoever is on call, however there is no way of verifying that alarms have been responded to.		

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

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

Recommendations

Subject	Kilmainhamwood Audit Recommendations	Due Date	22/09/2025
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. Advance plans to bring the newly drilled borehole into production as the main production well for the WTP. 2. Repair or replace the turbidity meter probe currently in use and ensure all monitors are appropriately maintained. 3. Review and confirm alarm and inhibit 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. 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. 6. Complete a Source and Sanitary Survey and confirm the assigned log treatment requirement for the supply once the new borehole has been brought into production. 7. If a log treatment deficit is identified, then Uisce Éireann should re-assess the feasibility of installing a run-to-waste or slow start system for the filters in accordance with the <i>EPA Water Treatment Manual: Filtration</i>. <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 the date above 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>		