

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	Kilmessan
Organisation	Uisce Éireann
Scheme Code	2300PUB1013
County	Meath
Site Visit Reference No.	SV32952

Report Detail	
Issue Date	25/09/2025
Prepared By	Lisa Noone

Site Visit Detail			
Date Of Inspection	02/09/2025	Announced	Yes
Time In	13:30	Time Out	14:55
EPA Inspector(s)	Lisa Noone		
Additional Visitors			
Company Personnel	Uisce Éireann: Joseph Moran, Conor Flanagan, Joseph Pusz, Seamus Quinn		

> Summary of Key Findings

1. The audit found that 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
2. Treatment plant shutdown setpoints protecting the validation envelope of the UV disinfection system were not available to review on the day of the audit. This was raised at a previous EPA audit in 2023.

> Introduction

Kilmessan Public Water Supply (PWS) supplies an average of 400 m³/day of water, serving a population of approximately 1,300 people. Raw water is abstracted from two boreholes located at the treatment plant. Treatment consists of chlorination prior to filtration for oxidation of iron and manganese, pressure filtration via three filters, UV disinfection and final water chlorination. Treated water is stored in an off-site reservoir.

The audit was undertaken to assess progress on outstanding recommendations from the EPA audit carried out in 2023, 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 at Kilmessan WTP were inspected as part of the audit



1. Management and Control

1.1

Have the recommendations from the previous EPA audit been satisfactorily addressed?

Answer

No

Comment

1. The UV system in place at the treatment plant is validated under the USEPA validation protocol. A plant shutdown setpoint was in place for treated water UVT. However, it was not possible to verify the other shutdown setpoints in place protecting the validation envelope of the UV system as they could not be accessed by operational staff on the UV system control panel. There was no manufacturer's plate attached to the UV reactor unit or control panel. These issues were raised at a previous EPA audit in 2023 and remain open.

2. Meath County Council confirmed that chlorine residual monitoring takes place daily within the supply network, however it was noted that sampling is not carried out at all extremities of the network to ensure that sufficient chlorination is received. This was raised at a previous EPA audit in 2023 and remains open.



2. Alarms, Inhibits & Oversight Audits 2025

		Answer
2.1	Is there a documented site specific incident response and incident escalation process?	Yes
	Comment	
	<p>1. The Uisce Éireann incident escalation flowchart was displayed at the WTP. However, this was last updated in 2023 and contact information and site specific trigger levels were not up-to-date.</p> <p>2. Supervisors are not currently included in alarm dial outs.</p>	
		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	
	<p>1. An alarm/inhibit set point is in place for chlorine residual post-secondary dosing with a time delay of 7,200 seconds (2 hours). This time delay is considered too long in the event of a dosing failure.</p> <p>2. A 1 NTU turbidity alarm setpoint is in place with a 5-minute time delay. This time delay is considered too long to ensure a turbidity of less than 1NTU prior to UV disinfection.</p>	
		Answer
2.3	Are dial out arrangements suitable to allow a timely response?	No
	Comment	
	<p>1. Critical alarms are dialled-out on a group-basis to three caretakers and are responded to depending on whoever is on call, however there is no way of verifying that alarms have been responded to.</p> <p>2. Supervisors are not currently included in alarm dial outs.</p>	
		Answer
2.4	Is there a documented procedure for responding to specific alarms?	No
		Answer
2.5	Are there appropriate procedures covering verification of alarms and inhibits status following maintenance or other work on site?	No

Recommendations

Subject	Kilmessan Audit Recommendations	Due Date	27/10/2025
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. Outstanding recommendations from 2023 audit: (i) Submit plant alarm/shutdown setpoints protecting the UV disinfection system validation envelope (flow, minimum UV intensity/dose) and install a manufacturer's plate on the UV disinfection system and (ii) review the network chlorine residual monitoring programme to ensure that sample locations are sufficient to verify the residual chlorine levels in the network, including at dead ends/network extremities. 2. Review and confirm alarm set points and time delays in place for chlorine residual post-dosing and turbidity. 3. 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. 4. 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. 5. 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. <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 above 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>		