

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	Kinlough/Tullaghan
Organisation	Uisce Éireann
Scheme Code	1700PUB0020
County	Leitrim
Site Visit Reference No.	SV32014

Report Detail	
Issue Date	06/05/2025
Prepared By	Veronica Boland

Site Visit Detail			
Date Of Inspection	01/04/2025	Announced	No
Time In	14:00	Time Out	16:50
EPA Inspector(s)	Veronica Boland		
Additional Visitors			
Company Personnel	Uisce Éireann: Marie Finneran, Paul Kelleher. Leitrim County Council (working in partnership with Uisce Éireann): Edmund Cullen, Padraig Tierney.		

> Summary of Key Findings

1. The audit found that Glenade Water Treatment Plant (WTP) was operating satisfactorily on the day of the audit.

> Introduction

The Kinlough/Tullaghan Public Water Supply (PWS) serves a population of 2,570 people and is supplied by the Glenade Water Treatment Plant (WTP) which produces approximately 1,127 m³/day (EDEN figure). The raw water source is Erriff Mountain spring located approximately 1.8km uphill from the treatment plant. Treatment at the plant consists of coagulation, clarification, rapid gravity filtration, UV disinfection, chlorination, and fluoridation. The treated water is pumped to Fertagh reservoir (900m³ storage capacity) and Erriff reservoir (132m³ storage capacity).

The audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water with a focus on alarms, inhibits and management oversight.

> Supply Zones Areas Inspected

The site areas inspected during the audit:

- WTP treatment processes.



1. Disinfection

1.1

Are duty and standby chlorine pumps/ UV units in operation?

Answer

No

Comment

1. The UV system installed is a 'Aquafides 3 AF400 T' disinfection system consisting of duty/standby units with automatic switchover in the event of a duty UV unit failure for any reason. However, at the audit only one UV unit (UV2) was operational, staff advised that the UV1 unit was offline since 31/01/2025 as bulb replacement was required and that the contractor had been contacted. The service/calibration sticker on both UV units were within date, both displaying serviced/calibrated on 07/07/2024 and next service/calibration due 05/07/2025.

2. Uisce Éireann provided a validation certificate indicating that the UV units are validated under the ONORM protocol within a specified range to operate at a minimum UV intensity (UVI) of 68.4W/m², and a maximum design flow of 76.2m³/hr. At the audit, the UV unit (UV2) was operating within its validation envelope, the UVI was 132.64 W/m² and the treated flow was 60.91 m³/hour.



2. Alarms, Inhibits & Oversight Audits 2025

2.1

Are suitable alarm settings in place to alert operators to deteriorating water quality or the failure of a critical treatment process?

Answer

No

Comment

1. There are two rapid gravity filters at Glenade WTP, both have turbidity monitors that are alarmed to trigger a backwash at 0.25 NTU with a 10 minute delay setpoint. The treated water from each filter is combined and the combined flow is sent to the UV unit for disinfection, however there is no turbidity monitor on the combined water as per the *EPA Water Treatment Manual: Filtration* which recommends continuous online turbidity monitoring with appropriate alarms and inhibits on each individual filter and on the combined filtered water where more than one filter is in place.

2.2

Did plant performance trends demonstrate that data was being captured and recorded at all times?

Answer

Yes

Comment

1. Staff advised at the audit that they carry out handheld UVT readings against the final water UVT monitor readings as they have found that there is a 2% inaccuracy between the UVT monitor reading and the UVT monitor reading on SCADA (the UVT monitor and handheld UVT monitors are serviced/calibrated at the same time annually). Uisce Éireann advised that they would investigate this issue further as it may be related to the scaling of the UVT measurement on SCADA.

Recommendations

Subject	Audit 2025 - Tullaghan/Kinlough PWS - Alarms, Inhibits, Management Oversight	Due Date	06/06/2025
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. Re-instate UV1 unit to operational working order. 2. Install a turbidity monitor on the combined treated water with appropriate alarms in accordance with the <i>EPA Water Treatment Manual: Filtration</i>. 3. Investigate and resolve the communication issues between the UVT monitor and the SCADA system. 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 06/06/2025 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.		