

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.	SV27837

Report Detail	
Issue Date	30/05/2023
Prepared By	Lorcan Farrell

Site Visit Detail			
Date Of Inspection	16/05/2023	Announced	Yes
Time In	10:30	Time Out	12:45
EPA Inspector(s)	Lorcan Farrell		
Additional Visitors			
Company Personnel	Uisce Éireann: Vincent McGrath. Leitrim County Council (Working in partnership with Uisce Éireann): Maeve Coultry, Edmund Cullen, Cathal Gormley, Padraig Meehan, Padraig Tierney, Finnian Travers.		

> Summary of Key Findings

1. The audit found that Glenade Water Treatment Plant (WTP) was operating satisfactorily on the day of the audit.
2. A source and sanitary survey is needed to confirm the 3 log protozoal treatment requirement in place at the treatment plant.

> Introduction

Kinlough/Tullaghan Public Water Supply serves a population of 2,332 people (EDEN figure) and is supplied by Glenade WTP which produces approximately 1,160 m³/day. The source for the treatment plant is Eriff Mountain spring located approximately 1.8km uphill from the treatment plant. Treatment at the plant consists of coagulation, clarification, filtration, UV disinfection, chlorination, and fluoridation.

The audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water with a focus on the protozoal barriers in place at the treatment plant.

> Supply Zones Areas Inspected

The audit included a site tour of Glenade WTP.



1. Protozoal Barriers Audits 2023

	Answer	
1.1	Is there a documented site specific incident response and incident escalation process?	No
Comment		
1. A documented incident response procedure was in place at the treatment plant. However the Uisce Éireann Incident Communications Response Guidance Form did not display site specific contact information for escalation and relevant trigger levels protecting critical plant processes at the treatment plant.		

	Answer	
1.2	Has UÉ identified the protozoal compliance log treatment requirement for the water treatment plant?	No
Comment		
1. The protozoal compliance log treatment requirement assigned for the treatment plant is a 3 log requirement. A source and sanitary survey has not been completed to confirm the calculated log treatment value for the supply.		

	Answer	
1.3	Are the filters designed and managed in accordance with EPA guidance?	No
Comment		
1. There are two single media rapid gravity filters in place at the treatment plant. There are no filter media depth gauges in place to visually assess filter media depth. Leitrim County Council stated that the media depth of both filters is 0.9m which is less than the recommended minimum media depth of one meter specified in the <i>EPA Water Treatment Manual: Filtration</i> .		
2. Filter media has not been replaced in either filter since the filters were installed in 2011 and no filter media assessment has been completed in that time.		
3. While filter operation and filter backwashes are visually assessed by staff, there are a number of regular operational checks outlined in Table 5.4 of the <i>EPA Water Treatment Manual: Filtration</i> that are not being completed regularly at the treatment plant. These include: optimisation of high-rate backwash duration, media depth check, media coring, backwash expansion assessment, filter outlet valve assessment and filter media integrity assessment. Appropriate records of operational checks are not being maintained for each filter as outlined in Section 5.5.4 of the <i>EPA Water Treatment Manual: Filtration</i> .		

1.4

	Answer
Is the UV system suitably validated?	No
Comment	
1. The UV disinfection system in operation at the treatment plant is validated under ONORM criteria. However, a copy of the UV validation certificate was not available on-site on the day of the audit.	



2. Site Specific Issues

	Answer	
2.1	Are treatment process chemicals appropriately managed and stored?	No
Comment		
1. The polyaluminium chloride (PAC) was stored on-site in temporary IBC storage. The IBC tanks were located on concrete in an un-bunded area and surrounded by sandbags. A new bunded PAC storage tank is due to be installed by Q3 2023.		

	Answer	
2.2	Is there sufficient filter backwash infrastructure redundancy at the treatment plant?	No
Comment		
1. There is a single air blower and single backwash pump available for filter backwashing at the treatment plant with no standby available for either unit. The failure of either unit could potentially disrupt the operation of the treatment plant as no standby units are available.		

	Answer	
2.3	Were online monitors operational?	No
Comment		
1. The post-clarification pH monitor was not reading accurately.		

Recommendations

Subject	Kinlough/Tullaghan - Audit Recommendations	Due Date	30/06/2023
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"><li>1. Update the Uisce Éireann Incident Communications Response Guidance Form with site specific information including contacts for escalation and relevant trigger levels protecting critical processes at the treatment plant and display on-site.<li>2. Complete a source and sanitary survey and confirm the assigned log treatment requirement for the supply.<li>3. Ensure that: (i) filter media depth is at a minimum of 1m operating depth, (ii) a filter media depth gauge is installed on each filter and (iii) a filter media assessment is completed.<li>4. Conduct regular operational checks of filters at the treatment plant and maintain adequate records of these checks in accordance with the <i>EPA Water Treatment Manual: Filtration</i>.<li>5. Submit a copy of the validation certificate for the UV disinfection system in use at the treatment plant.<li>6. Complete installation of the new bunded PAC storage tank at the treatment plant.<li>7. Assess the need for a standby air blower and backwash pump at the treatment plant.<li>8. Return the post-clarification pH monitor to working order. <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 30/06/2023 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>		