

Site Visit Report

Under the *European Union (Drinking Water) Regulations 2014* as amended, 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	Kilmallock PWS
Organisation	Uisce Éireann
Scheme Code	1900PUB1036
County	Limerick
Site Visit Reference No.	SV27536

Report Detail	
Issue Date	10/03/2023
Prepared By	Orla Harrington

Site Visit Detail			
Date Of Inspection	22/02/2023	Announced	Yes
Time In	14:00	Time Out	14:55
EPA Inspector(s)	Orla Harrington		
Additional Visitors			
Company Personnel	Uisce Éireann: Áine Butler Limerick City and County Council (working in partnership with Uisce Éireann): Diarmuid O'Dea, Willie Hurley, Edward Douglas.		

> Summary of Key Findings

1. The protozoal barrier at Kilmallock Water Treatment Plant is not fully protected by suitable alarms and inhibits as set out in the EPA Water Treatment Manual: Filtration in order to verify the protozoal barrier and to prevent the entry of inadequately treated water to the supply.
2. Uisce Éireann were unable to confirm the protozoal log treatment requirement for the Kilmallock Public Water Supply. No monitoring for *Cryptosporidium* in line with Uisce Éireann's *Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Water Supplies* is currently taking place for the supply.

> Introduction

The Kilmallock Public Water Supply (PWS) serves a population of 2,721 and produces 862 m3/day according to information on the EPA's EDEN system. Raw water is sourced from the Loobagh River that runs parallel to the plant. Treatment consists of coagulation, flocculation and clarification, rapid gravity filtration and chlorination.

This audit focussed on the operation and management of the rapid gravity filters that provide a barrier for *Cryptosporidium* to verify that the installed treatment barrier is satisfactory.

> Supply Zones Areas Inspected

The audit assessed the rapid gravity filtration system at the Kilmallock WTP.



		Answer
1.1	Has UÉ identified the protozoal compliance log treatment requirement for the water treatment plant?	No
Comment		
Uisce Éireann were unable to confirm the protozoal log treatment requirement for the Kilmallock Public Water Supply.		

		Answer
1.2	Did UÉ confirm whether <i>Cryptosporidium</i> monitoring under the Rationale for Determining the Frequency of <i>Cryptosporidium</i> in Public Water Supplies is being carried out?	No
Comment		
No monitoring for <i>Cryptosporidium</i> in line with Uisce Éireann's <i>Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Water Supplies</i> is currently taking place for the supply.		

		Answer
1.3	Are the filters designed and managed in accordance with EPA guidance?	No
Comment		
<p>1. There are three rapid gravity filters in place at Kilmallock water treatment plant.</p> <p>2. Turbidity monitors are in place on each individual filter and on the combined filtered water with automatic shutdown at 1 NTU. This level is above the EPA recommended filter turbidity performance criteria of less than 0.3 NTU to demonstrate and verify an effective <i>Cryptosporidium</i> barrier.</p> <p>3. During the audit, the trends showed acceptable turbidities less than 0.3 NTU on each filter outlet and on the combined filtered water.</p>		



2. Site Specific Issues

2.1

Is the information reported by Uisce Éireann on the EPA EDEN portal correct?

Answer

No

Recommendations

Subject	Kilmallock PWS - Audit Report	Due Date	10/04/2023
Action Text	<p>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendation(s) without delay.</p> <ol style="list-style-type: none"> 1. Log Credits: (i) confirm the log treatment requirement for the plant; (ii) confirm how any log deficit will be addressed and (iii) commence <i>Cryptosporidium</i> monitoring in accordance with Uisce Éireann's <i>Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Water Supplies</i>. 2. Inform the HSE that the protozoal barrier cannot be verified. 3. Review and implement turbidity alarms and shutdowns to ensure that the plant operates in accordance with the turbidity log performance criteria as outlined in the EPA Water Treatment Manual: Filtration to demonstrate that there is an effective protozoal barrier at the plant. 4. Update EDEN with the correct supply volume, population and current sources at the plant. <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 10/04/2023 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>		