

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	Ferns Regional
Organisation	Uisce Éireann
Scheme Code	3300PUB1498
County	Wexford
Site Visit Reference No.	SV30261

Report Detail	
Issue Date	02/08/2024
Prepared By	David O'Malley

Site Visit Detail			
Date Of Inspection	18/07/2024	Announced	Yes
Time In	10:20	Time Out	12:15
EPA Inspector(s)	David O'Malley Sean O'Leary		
Additional Visitors			
Company Personnel	Uisce Éireann: Pat Duggan. Wexford County Council (working in partnership with Uisce Éireann): Fionnuala Callery, John Breen, Barry Hammell, Mick Kavanagh, Tom McLoughlan and Neville Collier.		

> Summary of Key Findings

1. *Cryptosporidium* (0.01 count/no. per 10L) was detected in a final treated water in a sample taken at the Ferns public water supply on 19/06/2024. Following consultation with the HSE, follow up sampling was undertaken for three days with one positive result on the 27/06/2024. A Boil Water Notice was issued on the 28/06/2024. The Boil Water Notice was still in place on the day of the audit and was subsequently rescinded on the 19/07/2024.
2. The audit found there were no shutdowns for turbidity on each of the four slow sand filters, the final water or for low and high chlorine residual in the final water.

> Introduction

The Ferns Public Water Supply (PWS) supplies an average of 656 m³/day of water, serving a population of 1,673 (EDEN 2023). The source for the supply is the River Curralane with treatment consisting of four slow sand filters, chlorination and fluoridation. Treated water is pumped to an off-site reservoir.

The audit was undertaken in response to the detection of *Cryptosporidium* in samples of the final treated water on 19/06/2024 and 27/06/2024 which lead to a subsequent Boil Water Notice put in place on the 28/06/2024. The Boil Water Notice was subsequently rescinded on the 19/07/2024. Recommendations from the previous audit on 05/12/2023 were also assessed.

> Supply Zones Areas Inspected

The four slow sand filters, chlorination dosing system and incident response procedures were inspected at the water treatment plant.



1. Incident Management

1.1

	Answer
Was the incident suitably alerted to the plant operators, escalated and managed in order to maintain water quality and protect public health?	Yes
Comment	
<p>On the 26/06/2024 Uisce Éireann received a <i>Cryptosporidium</i> result of 0.01 count/No. per 10 litre from monthly <i>Cryptosporidium</i> sampling at the Ferns Public Water Supply. In consultation with the HSE it was decided to sample for <i>Cryptosporidium</i> for three days. A positive result (0.006 count/No. per 10 litre) was received from sample taken on the 27/06/2024.</p> <p>A Boil Water Notice was placed on the entire supply of 1,673 people on the 28/06/2024 after consultation with HSE. Filters one and two were in operation on the day of the audit. Filters three and four were not in operation, as they had been cleaned and were in the ripening stage which takes approximately two to three weeks.</p> <p>Turbidity trends were viewed for individual turbidity and final turbidity readings for the week of the 19/06/2024 and the week of the 27/06/2024. There was no breach of 0.5 NTU <i>Cryptosporidium</i> barrier for the slow sand filters. On the day of the audit regular <i>Cryptosporidium</i> sampling was taking place on filters three and four which are being ripened. When the <i>Cryptosporidium</i> results are all clear, the filters will be put into operation. There have been three satisfactory <i>Cryptosporidium</i> and <i>Giardia</i> sample results from filters one and two taken on the 05/07/2024, 09/07/2024 and the 11/07/2024. The Boil Water Notice was subsequently rescinded on the 19/07/2024.</p>	



2. Management and Control

	Answer	
2.1	Is the water treatment plant resilient enough to cope with significant variations in raw water quality or demand?	No
Comment		
1. Uisce Éireann stated that the raw water inlet valve automatically closes on a high turbidity of 14 NTU. Section 4.3: Design Considerations of the <i>EPA Water Treatment Manual: Filtration</i> recommends feed water to a slow sand filtration process have a turbidity of less than 10 NTU.		

	Answer	
2.2	Have the recommendations from the previous EPA audit been satisfactorily addressed?	No
Comment		
Previous audit recommendations No. 1 (i) and No. 4 have been addressed.		
The following recommendations from the previous audit undertaken on 05/12/2023 are ongoing and future progress with these recommendations will be tracked under this audit report:		
1. (ii) Ensure <i>Cryptosporidium</i> monitoring is undertaken as per " <i>Uisce Éireann's Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Supplies</i> " where a protozoal log deficit is identified, until such time as it is addressed.		
Status:		
A protozoal log requirement of score of 3 has been identified for the supply. The four slow sand filters provide a log treatment of 2.5. <i>Cryptosporidium</i> is being monitored monthly for the supply in accordance with " <i>Uisce Éireann's Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Water Supplies</i> ".		
2. Install automatic shutdown for turbidity on each of the four slow sand filters, the final turbidity and on the low/high chlorine residual to ensure adequate disinfection.		
Status:		
A PLC is required for site, it is included in the capital upgrades programme. Investigation is needed on the individual slow sand filter shutdowns. Initial site assessment report by the contractor due by Q4 2024.		
3. Install a continuous online chlorine monitor with alarm before the first house on the network to verify contact time.		
Status:		
UV system is planned as part of a capital upgrade programme. This will then be the primary disinfectant, meaning the contact time for chlorine won't be required. Initial site assessment report by contractor due Q4 2024.		

Recommendations

Subject	Audit Recommendations	Due Date	30/08/2024
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. Install automatic shutdown for turbidity on each of the four slow sand filters and final turbidity (outstanding since previous audit).2. Install automatic shutdown for low and high chlorine residual to ensure adequate disinfection (outstanding since previous audit).3. Put in place appropriate shutdown set-points for raw water inlet turbidity as detailed in the <i>EPA Water Treatment Manual: Filtration</i>.4. Install a continuous online chlorine monitor with alarm before the first house on the network to verify contact time (outstanding since previous audit).5. i) Provide an action programme and timeframe to address the treatment log deficit of 0.5 at the plant and ii) Continue to monitor the supply in accordance with <i>Uisce Éireann's Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Supplies</i> (ongoing per previous audit). <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 30/08/2024 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>		