

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	Sneem PWS 068A
Organisation	Uisce Éireann
Scheme Code	1300PUB1061
County	Kerry
Site Visit Reference No.	SV30631

Report Detail	
Issue Date	29/11/2024
Prepared By	Regina Campbell

Site Visit Detail			
Date Of Inspection	14/11/2024	Announced	Yes
Time In	11:00	Time Out	12:30
EPA Inspector(s)	Regina Campbell		
Additional Visitors			
Company Personnel	Uisce Éireann: Tommy Roche, Sharon O' Dwyer, Eoin O' Connell. Kerry County Council (working in partnership with Uisce Éireann): Seamus O' Mahony, Kathleen Casey, Michael Murphy.		

> Summary of Key Findings

1. *Cryptosporidium* and *Giardia* were detected in samples taken in the Sneem public water supply on 15/10/24. Resampling results were clear. Uisce Éireann and Kerry County Council said there were no issues at the water treatment plant at the time of the detections. Turbidity and chlorine trends submitted for 7 days prior to the detections showed very low turbidity in the final water and stable chlorine trends. Monthly protozoal sampling will continue on this supply. There is a protozoal log deficit of 0.5 at the plant, subject to final confirmation by Uisce Éireann.
2. The plant was operating satisfactorily on the day of the audit based on turbidity, chlorine and pH trends viewed.
3. A final water pH correction system was installed at the plant in 2023. Uisce Éireann should review the final water pH results and consider the removal of the supply from the Uisce Éireann National pH file prior to the next submission of the file to the EPA in January 2025.

> Introduction

Sneem Public Water Supply (PWS) serves a population of 476 and produces 444 m³/day according to information on the EPA's Eden system (2024 figures).

Raw water is sourced from Dromtine Lough. Treatment consists of slow sand filtration, disinfection via chlorination and final pH correction using caustic soda.

The audit was undertaken in response to detections of *Cryptosporidium* and *Giardia* in the supply on 15/10/24. Resampling on 24/10/24 was clear.

> Supply Zones Areas Inspected

The slow sand filters, chlorination dosing system, chemical storage and monitors were inspected.



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>1. <i>Cryptosporidium</i> (0.015/10L) and <i>Giardia</i> (0.041/10L) were detected in a sample of the treated water at a location in the Sneem PWS supply on 15/10/24. There have been no previous detections notified to the EPA.</p> <p>2. Uisce Éireann consulted with the HSE having completed an initial risk assessment. Taking this risk assessment into account the HSE deemed this incident did not pose a risk of such significance that consumers should be notified immediately.</p> <p>3. Resampling undertaken on 24/10/24 was clear for <i>Cryptosporidium</i> and <i>Giardia</i>. Uisce Eireann and Kerry County Council said there were no issues at the water treatment plant at the time of the detection. Turbidity and chlorine trends submitted for 7 days prior to the detections showed very low turbidity in the final water and stable chlorine trends. Monthly protozoal sampling will continue on this supply.</p> <p>4. The audit found that the incident was suitably escalated and managed in order to maintain water quality and protect public health.</p>	

> 2. Filtration

		Answer
2.1	Are the filters designed and managed in accordance with EPA guidance?	No
Comment		
<p>1. Kerry County Council said that there is approximately 500mm depth of sand in each of the three slow sand filters. This is less than than the minimum depth of 600mm required as outlined in the EPA Water Treatment Manual: Filtration.</p> <p>2. There are no level markers in place in each filter to allow the sand depth to be easily read by operators or continuous headloss monitors on the filters for the purpose of initiating filter cleaning. Kerry County Council said that the design capacity of the filters is greater than supply demand and that the filters perform very well as the lake source is very consistent and of good quality. The filter run times are about three months.</p> <p>4. There is no continuous turbidity monitor on the raw water prior to filtration.</p>		

		Answer
2.2	Does monitoring indicate that the filters are operating effectively?	Yes
Comment		
<p>1. The turbidity reading after each filter was < 0.1 NTU at the audit and trends submitted showed low and steady turbidity trends.</p>		



3. Disinfection

3.1

Is the residual chlorine monitored at a suitable sample location after contact time has been completed?

Answer

No

Comment

The site target contact time is 18mg.min/l. The total effective contact time with a chlorine level of 0.5 mg/l is 23.03 mg.min/l with contact time achieved in the chlorine contact tank and 1km of pipeline to the first house, which means there is adequate chlorine contact time before the first connection.

However the chlorine monitor is located at the water treatment plant after the contact tank and so is not located after contact time has been completed.



4. Treatment Process Chemicals

	Answer
4.1 Are treatment process chemicals appropriately managed and stored?	No
Comment	
The fill point of the sodium hydroxide tank is outside of the bund.	



5. Management and Control

		Answer
5.1	Has the protozoal compliance log treatment requirement been identified for the water treatment plant?	No
Comment		
Uisce Éireann said that the preliminary calculated log requirement for the plant is not likely to exceed 3 log. A source and sanitary survey has not been completed for the plant yet and Uisce Éireann said it will be completed before end of Q4 2024.		



6. Drinking Water Quality

		Answer
6.1	Is Cryptosporidium monitoring being carried out in accordance with Uisce Éireann's 'Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Water Supplies'?	Yes
Comment		
Monthly protozoal monitoring is being undertaken of the supply.		



7. Site Specific Issues

	Answer
7.1 Is the final water pH correction system operating satisfactorily?	Yes
Comment	
<p>Sneem PWS is on the Uisce Éireann National pH file for persistent low pH in the final water due to naturally low pH in the lake source.</p> <p>A final water pH correction system was installed at the plant in 2023 and according to Uisce Éireann and Kerry County Council the system is operating satisfactorily. This should allow for consideration of the removal of the supply from the Uisce Éireann National pH file.</p>	

Recommendations

Subject	Sneem Audit Recommendations 14/11/24	Due Date	29/12/2024
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. a) undertake a source and sanitary survey and confirm the protozoal log treatment requirement for the plant b) identify how the log treatment deficit will be addressed and c) continue to monitor the supply in accordance with the Uisce Eireann Rationale for Determining the Frequency of Monitoring of <i>Cryptosporidium</i> in public water supplies.2. Install a chlorine monitor to verify contact time has been completed prior to the first connection.3. Review the final water pH results since operation of the pH correction system commenced and consider removal of the supply from the Uisce Éireann National pH file.4. Assess the condition of the filter sand and ensure that the operating depth is a minimum of 600mm depth in each filter.5. a) install a filter media depth marker in each filter b) install continuous monitoring of headloss in each filter and c) install a continuous raw water turbidity monitor.6. Ensure that the fill-point for the sodium hydroxide tank is located within the bunded area. <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 29/12/24 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>		