

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	Brosna/Knocknagoshel PWS 016F
Organisation	Uisce Éireann
Scheme Code	1300PUB1012
County	Kerry
Site Visit Reference No.	SV29534

Report Detail	
Issue Date	01/05/2024
Prepared By	Regina Campbell

Site Visit Detail			
Date Of Inspection	23/04/2024	Announced	Yes
Time In	11:00	Time Out	12:25
EPA Inspector(s)	Regina Campbell		
Additional Visitors			
Company Personnel	Uisce Éireann: Tommy Roche Kerry County Council (working in partnership with Uisce Éireann): Billy Roche, Seamus O'Mahony, Brian Lennon		

> Summary of Key Findings

1. The Brosna/Knocknagoshel water treatment plant was operating satisfactorily on the day of the audit as evidenced by the operational data examined.
2. The turbidity alarm and inhibit setpoints are not in accordance with the log performance criteria as set out in the EPA Treatment Manual: Filtration.

> Introduction

The Brosna/Knocknagoshel public water supply serves a population of 913 on the public supply and serves a population of 1,041 on the Brosna/Knocknagoshel public group water scheme. The plant produces 1,360 m³/day.

The source is the Clydagh River and treatment consists of coagulation, clarification, rapid gravity filtration followed by chlorination and pH correction.

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 water treatment plant.

> Supply Zones Areas Inspected

The clarifiers, rapid gravity filters and operational monitors were inspected.



1. Protozoal Barriers Audits 2024

		Answer
1.1	Has UÉ identified the protozoal compliance log treatment requirement for the water treatment plant?	No
Comment		
<p>Uisce Éireann has provisionally identified a 3 log requirement for the plant. However the site sanitary survey has not been completed yet.</p> <p>Monthly <i>Cryptosporidium</i> monitoring takes place and there have been no detections to date.</p>		

		Answer
1.2	Are the filters designed and managed in accordance with EPA guidance?	No
Comment		
<p>1. There are 3 no. rapid gravity filters in operation at the plant. The filter media depth could not be confirmed at the audit. Kerry County Council advised that media was topped up in 2020.</p> <p>2. There are no media depth gauges in the filters.</p> <p>3. Backwashing of filters is not triggered by turbidity, headloss or time. Backwashing is manually initiated based on operator experience and typically one filter is washed per day.</p> <p>4. There are no run to waste facilities after backwashing. Filters are allowed to settle and brought slowly back into service following backwashing.</p>		

		Answer
1.3	Are there suitable plant controls to prevent inadequately treated water entering the distribution network?	No
Comment		
<p>1. There is shutdown triggered by turbidity of 0.3 NTU on each filter. However, Kerry County Council could not confirm the time delay on the shutdown. There are no turbidity alarms on each filter.</p> <p>2. There is an alarm setpoint of 0.9 NTU (3 minute time delay) on the combined filter turbidity monitor which is not in accordance with the log performance criteria set out in the EPA Water Treatment Manual: Filtration. Shutdown of the plant takes place if the combined filter turbidity exceeds 1 NTU (3 minutes time delay).</p> <p>3. Turbidity trends viewed for each filter, for the combined filtered water and the final water were satisfactory at the audit.</p> <p>4. The time delays on the high and low chlorine alarms and shutdowns are 15 minutes. This time delay is not in accordance with the 5 minutes time delay as recommended in the EPA Water Treatment Manual: Disinfection.</p> <p>5. Kerry County Council said that the migration of all the alarms and inhibits from the old to the new SCADA system is ongoing and that not all alarms are configured on the new SCADA system yet.</p>		

1.4

Are alarms and shutdowns on each filter, on the combined filtered water and final water in accordance with the EPA Filtration Manual?

Answer

No

Comment

See Section 1.3 above for details.



2. Site Specific Issues

	Answer
2.1 Is the service due sticker for the floc pH monitor within date?	No
Comment	
1. The floc pH probe is calibrated weekly by operational staff. However the external service due date sticker displayed was out of date.	

Recommendations

Subject	Brosna/Knocknagoshel Audit Recommendations 23 04 24	Due Date	01/06/2024
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) Confirm the protozoal treatment requirement for the plant following completion of the site sanitary survey; b) identify how any log treatment deficit will be addressed and c) continue to monitor the supply in accordance with Uisce Éireann's Rationale for Determining the Frequency of Monitoring of <i>Cryptosporidium</i> in Public Water Supplies.2. a) confirm the media depth in Filters 1, 2 and 3; b) install a media depth gauge in each filter; c) examine the feasibility of installing filter backwashing triggered on turbidity, headloss and time and d) examine the feasibility of installing run to waste or slow start facilities following backwashing of each filter.3. Review and implement turbidity alarms and inhibits on each filter, the combined filtered water and on the final water to ensure that the plant operates in accordance with the log performance criteria as outlined in the EPA Water Treatment Manual: Filtration.4. Lower the time delays on the chlorine alarm and inhibit setpoints in accordance with the recommendations in the EPA Water Treatment Manual: Disinfection.5. Confirm that a) the floc pH probe has been serviced and b) the service sticker is displayed on the monitor.6. Confirm that the new SCADA system has been upgraded and that all relevant alarms and inhibits are migrated over to the new system. <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 01/06/24 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>		