

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	Pettigo PUB
Organisation	Uisce Éireann
Scheme Code	0600PUB1104
County	Donegal
Site Visit Reference No.	SV29674

Report Detail

Issue Date	31/07/2024
Prepared By	Veronica Boland

Site Visit Detail

Date Of Inspection	04/07/2024	Announced	Yes
Time In	11:10	Time Out	13:05
EPA Inspector(s)	Veronica Boland		
Additional Visitors			
Company Personnel	Uisce Éireann: Geraldine Friel, Fionnuala Bonner. Donegal County Council (working in partnership with Uisce Eireann): Seamus Delahunty, Adrian Gillespie, Paul Lyons, Gerry Gallagher, Brendan Gavigan, Columba Heena, Eddie McGrane.		

> Summary of Key Findings

1. There is no protozoal barrier in place at the Pettigo water treatment plant (WTP). No monitoring is taking place at the treatment plant for *Cryptosporidium*. Uisce Éireann have not yet defined the calculated log requirement for treatment of the groundwater source.
2. There are no automatic shutdowns linked to low and high chlorine residual levels at the Pettigo WTP.

> Introduction

The Pettigo WTP produces an average of 130 m³/day of treated water and serves a population of approximately 300 people. The raw water abstraction is groundwater from two boreholes located at the WTP. The treatment comprises of chlorination disinfection only. The treated water is pumped to a nearby reservoir with a capacity of 270m³ (2 days storage).

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 WTP.

> Supply Zones Areas Inspected

The audit included a site visit of the treatment process and the two boreholes at Pettigo WTP. The treated water reservoir was not inspected.



1. Source Protection

1.1

Is the abstraction source(s) adequately protected against contamination?

Answer

Yes

Comment

1. There is a raw water monitoring programme in place for the groundwater source. The parameters monitored are coliform bacteria, E.coli., UVT and ammonia.

2. The groundwater boreholes are capped and located in encased kiosks. Borehole No. 2 kiosk had a hole on the back which may present a route for wildlife to enter the kiosk.



2. Disinfection

2.1

Is there a suitable monitoring frequency for residual chlorine in the network with records available?

Answer

No

Comment

1. Network chlorine residuals are monitored in the Pettigo water supply once per week. A suitable monitoring frequency (a minimum of 2-3 times per week) is recommended to verify that there is a minimum chlorine residual of 0.1 mg/l throughout the network to ensure that consumers are receiving adequately disinfected water.



3. Protozoal Barriers Audits 2024

3.1

Is there a documented site specific incident response and incident escalation process?

Answer

No

Comment

1. The Uisce Éireann Incident Communication Response Guidance chart displayed at the WTP did not contain the site specific alarm time delay setpoints that protect critical processes at the Pettigo WTP.
2. The Uisce Éireann Incident Communication Response Guidance chart displayed for Pettigo WTP had highlighted details relating to 'individual filter turbidity', which is not relevant to Pettigo WTP.
3. There is no procedure in place at the plant which allows for verification that an alarm has been responded to.

3.2

Did staff confirm they have received training on the site specific incident response and incident escalation process?

Answer

No

Comment

1. Operational staff with alarm response duties stated that no training has been received on the Uisce Éireann Incident Communication Response Guidance chart.

3.3

Has UÉ identified the protozoal compliance log treatment requirement for the water treatment plant?

Answer

No

Comment

1. A source and sanitary survey has not been carried out for Pettigo PWS to confirm the calculated protozoal log treatment requirement for the supply. The pre-audit information submitted for Pettigo stated that a default 3 log requirement has been provisionally assigned to Pettigo PWS.
2. Treatment processes at Pettigo WTP (chlorination only) do not provide a 3-log protozoal barrier.

3.4

Did UÉ confirm whether *Cryptosporidium* monitoring under the Rationale for Determining the Frequency of *Cryptosporidium* in Public Water Supplies is being carried out?

Answer

No

Comment

1. *Cryptosporidium* monitoring is not carried out at the Pettigo WTP.

3.5

		Answer
Are there suitable plant controls to prevent inadequately treated water entering the distribution network?		No
Comment		
<p>1. There are high (2.5 mg/l) and low (0.50 mg/l) chlorine warning alarm setpoints, however there are no automatic shutdowns linked to low and high chlorine residual levels at the WTP.</p> <p>2. There is continuous monitoring of raw water turbidity and flow at the groundwater boreholes. Borehole No. 1 was operating on the day of the audit, and the turbidity reading was 0.064 NTU on the day of the audit.</p> <p>3. There is an automatic shutdown of the supply linked to the raw water turbidity alarm setpoint of 0.5 NTU. The water automatically runs to waste for 12 minutes and will continue to run to waste until the raw water turbidity is 0.3 NTU and then the water will go back into production and the plant will automatically restart at this setting.</p>		

Recommendations

Subject	Pettigo PWS - Audit (Protozoal) 2024	Due Date	28/08/2024
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. (i) Complete a source and sanitary survey to confirm the log treatment requirement for the Pettigo supply and (ii) provide details on how a protozoal log deficit, if identified, will be addressed and (iii) undertake monitoring for <i>Cryptosporidium</i> at the treatment plant in accordance with the Uisce Éireann <i>Rationale for Determining the Frequency of Cryptosporidium in Public Water Supplies</i>. 2. Install an automatic shutdown of the plant for high and low chlorine residual setpoints to ensure adequately disinfected water is being supplied to consumers. 3. (i) Update the Uisce Éireann Incident Communication Response Guidance Form displayed at the WTP to contain all site specific alarm trigger levels and alarm time delay setpoints protecting critical processes at the Pettigo and (ii) ensure that training on the updated Uisce Éireann Incident Communication Response Guidance Form is provided to all operational staff for Pettigo WTP. 4. Ensure that there are robust systems of reviews and checks on the water treatment plant performance data which should include regular review of SCADA trends by operational and supervisory staff. 5. Carry out monitoring of residual chlorine several times (two to three) per week at different points of the network to include network extremities. 6. Ensure that any holes in the groundwater borehole kiosks are sealed to prevent entry of wildlife. <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 28 August 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>		