

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	Belturbet P.W.S.
Organisation	Uisce Éireann
Scheme Code	0200PUB0108
County	Cavan
Site Visit Reference No.	SV29601

Report Detail	
Issue Date	26/02/2024
Prepared By	Veronica Boland

Site Visit Detail			
Date Of Inspection	07/02/2024	Announced	Yes
Time In	14:50	Time Out	16:50
EPA Inspector(s)	Veronica Boland Ruth Barrington		
Additional Visitors			
Company Personnel	Uisce Éireann: Fionnuala Bonner, Yvonne McMonagle. Cavan County Council (working in partnership with Uisce Éireann): Ciaran Fitzpatrick, John Fay.		

> Summary of Key Findings

1. The alarm and inhibit time delay setpoints for turbidity and chlorine were not displayed and could not be accessed on the HMI monitor.
2. Network chlorine residuals are monitored in the Belturbet water supply once per week. This should be increased to several times per week.
3. There is no designated person in place to provide oversight for plant and trend data.

> Introduction

The Belturbet public water supply abstracts water from the River Erne, produces approximately 647 m³/day of treated water and serves a population of 1,866 (EDEN figure). The water treatment process comprises of potassium permanganate treatment to remove manganese, coagulation with aluminium sulphate, flocculation, clarification and filtration in a dissolved air flotation and filtration treatment unit, disinfection with sodium hypochlorite, pH correction on the final water, and fluoridation. The treated water is pumped to a high level reservoir tower above the water treatment plant.

The audit was undertaken to assess Uisce Éireann's (UÉ) performance in producing clean and wholesome water, with a focus on the alarms and inhibits in place at the water treatment plant (WTP) and the procedures in place to ensure appropriate oversight of treatment processes.

> Supply Zones Areas Inspected

The audit included a site visit of the treatment processes at Belturbet water treatment plant, interviews with staff, and reviews of online monitoring data and controls. The abstraction source and treated water reservoir were not visited as part of the audit.



1. Alarms, Inhibits & Oversight Audits 2024

		Answer
1.1	Are suitable plant shutdowns/inhibits in place to prevent the entry of inadequately treated water entering the distribution network?	No
Comment		
<p>1. At the time of the audit, the alarm and shutdown setpoint time delays for turbidity and chlorine were not displayed on the HMI, and the operator was unable to access details of the set time delays on the HMI. The operator advised that all alarm setpoint time delays were set at a standard 15 minutes.</p> <p>2. The current final water turbidity alarm and shutdown setpoint is 0.7 NTU with a time delay of 15 minutes which is not in accordance with the <i>EPA Drinking Water Manual: Filtration</i>.</p> <p>3. The time delays in place (15 minutes) for high and low chlorine do not meet the 5 minute time delay recommended in the <i>EPA Water Treatment Manual: Disinfection</i>.</p>		

		Answer
1.2	Is there appropriate oversight of plant performance trends?	No
Comment		
<p>1. Staff advised that oversight of plant performance trends was in place up to recently. The position has been vacated and there is no timeline on when this role will be filled.</p> <p>2. The continuous online turbidity and chlorine levels were inspected on the SCADA system for the time period 01 January 2024 to 07 February 2024. Turbidity monitor trends 'Veolia Treated' and 'TU001 Treated water' indicated turbidity spikes above 1 NTU on a couple of occasions, and the two lines were trending together. An investigation into the reason for the turbidity spikes is needed to ensure that the <i>Cryptosporidium</i> barrier is protected.</p>		



2. Site Specific Issues

	Answer
2.1 Are bulk storage points and areas suitably maintained?	No
Comment	
1. The fill point bund tray for aluminum sulphate in the bulk storage area was full of crystallized material.	

Recommendations

Subject	Belturbet PWS Audit Recommendations	Due Date	20/03/2024
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. Review and implement alarm and inhibit delay set points for turbidity and chlorine, as detailed in the <i>EPA Water Treatment Manual: Filtration</i> and <i>EPA Water Treatment Manual: Disinfection</i>.2. Carry out monitoring of residual chlorine several (two to three) times per week at different points of the network to include network extremities3. Provide regular oversight of plant performance data to assist in the operation of the water treatment plant.4. The crystalized material in the fill point bund trays in the bulk storage areas should be removed and disposed of appropriately. The fill point bund trays and the bulk storage areas should be kept clean with capacity available to contain any minor spills during delivery. <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. Uisce Éireann should submit a report to the EPA on or before 25 March 2024 detailing the actions taken and planned, with timescales, to close out the above recommendations. The EPA advises that the findings and recommendations from this audit report should, where relevant, be addressed at other public water supplies.</p>		