

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	Westport PWS
Organisation	Uisce Éireann
Scheme Code	2200PUB1025
County	Mayo
Site Visit Reference No.	SV29670

Report Detail	
Issue Date	26/04/2024
Prepared By	Veronica Boland

Site Visit Detail			
Date Of Inspection	10/04/2024	Announced	Yes
Time In	10:35	Time Out	12:20
EPA Inspector(s)	Veronica Boland Ruth Barrington		
Additional Visitors			
Company Personnel	Uisce Éireann: Thomas Gibbons, Brian Conmy, Patrick Navin. Mayo County Council (working in partnership with Uisce Éireann): John Mullarkey, Declan Keane.		

> Summary of Key Findings

1. The time delays in place for high and low chlorine alarm and shutdowns do not meet the 5 minute time delay recommended in the EPA *Water Treatment Manual: Disinfection*.
2. Records of calibration and servicing of chemical dosing pumps were not available during the audit.
3. The bulk chemical storage areas for soda ash, poly aluminium chloride, and polymer were not banded and the bulk sodium hypochlorite fill-point was not adequately banded to prevent overspill.

> Introduction

The Westport public water supply (Westport PWS) water treatment plant (WTP) operates 24 hours/day, supplies an average of 2,184m³/day of treated water, and serves a population of approximately 1,230 people. Raw water is abstracted from Lough Moher, during periods of high demand or dry weather the supply is supplemented with water from the Lough Mask Water Treatment Plant (Carrowbaun reservoir). The treatment comprises pH adjustment using soda ash, coagulation, flocculation, clarification, rapid gravity filtration, final pH adjustment, chlorination and fluoridation. Treated water travels to the Sandy Hill reservoir in Westport.

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 (WTP).

> Supply Zones Areas Inspected

The audit included a site visit of the treatment processes at Westport WTP. The abstraction source and treated water reservoir were not visited as part of the audit.



1. Disinfection

		Answer
1.1	Is the disinfection system verified using monitors and alarms?	Yes
Comment		
1. The 10 minute (600 seconds) time delay in place for high and low chlorine alarms and shutdowns does not meet the 5 minute time delay recommended in the EPA Water Treatment Manual: Disinfection.		

		Answer
1.2	Is there a suitable monitoring frequency for residual chlorine in the network with records available?	No
Comment		
1. Network chlorine residuals are monitored in the Westport water supply once per week. A suitable monitoring frequency (a minimum of every 2-3 days) is required to verify that there is a minimum chlorine residual of 0.1 throughout the network to ensure that consumers are receiving adequately disinfected water.		



2. Treatment Process Chemicals

2.1

	Answer
Are treatment process chemicals appropriately managed and stored?	No
Comment	
<p>1. The sodium hypochlorite bulk delivery fill-point (located on outside of the building leading into the chlorine dosing room) is not properly protected from overspill during filling.</p> <p>2. Small containers of sodium hypochlorite in the chlorine dosing room were not stored in a bunded area.</p> <p>3. The 'chemical room' where the polyaluminium chloride, soda ash and polyelectrolyte are stored and associated pumps is not bunded. There was evidence of a small spillage in the area.</p> <p>4. Operational staff outlined that drains in the chemical room lead to the sludge bleed tank beside the river.</p>	



3. Management and Control

		Answer
3.1	Are instrument calibrations within date?	No
Comment		
<p>1. The soda ash, poly aluminium chloride, and polyelectrolyte dosing pumps had no calibration stickers to indicate when they were last calibrated and serviced and when the next service and calibration was due. There was no record on site of calibration and service of pumps and monitors.</p> <p>2. The dates on the service calibration stickers on the chlorine dosing pumps had faded and were not legible.</p> <p>3. The pH001 monitor calibration sticker indicated that the last service was 23 December 2022. There was no record on the sticker indicating service since that date.</p>		



4. Protozoal Barriers Audits 2024

	Answer	
4.1	Is there a documented site specific incident response and incident escalation process?	No
Comment		
1. The Uisce Éireann Incident Communication Response Guidance chart displayed at the WTP did not contain the site specific alarm trigger levels to protect critical processes at the WTP.		

	Answer	
4.2	Are the filters designed and managed in accordance with EPA guidance?	No
Comment		
1. There are two rapid gravity filters in place at the treatment plant. There was no record of the media depth or the last time the filter media was refurbished, and there are no filter media depth gauges in place to visually assess filter media depth.		

Recommendations

Subject	Westport Audit - Protozoal Barrier - 10 April 2024	Due Date	24/05/2024
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 changes to the alarm and inhibit time delay for high and low chlorine alarms, as detailed in the EPA <i>Water Treatment Manual: Disinfection</i>.2. Ensure that the Uisce Éireann Incident Communication Response Guidance chart displayed at the WTP contains the site specific trigger levels protecting critical processes at the WTP.3. Maintain records (such as stickers on equipment) on site of all calibration and servicing of critical treatment and monitoring equipment for staff.4. (i) Ensure that a filter media depth gauge is installed on each filter, and (ii) confirm the depth of the filter media and ensure that it is in accordance with the EPA <i>Water Treatment Manual: Filtration</i>.5. Review all chemical delivery and storage arrangements at the treatment plant including fill points to prevent the potential for chemical spills, or discharge offsite. Refer to EPA guidance document “<i>IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities</i>”. Remove empty containers stored onsite and dispose of appropriately.6. Carry out chlorine residual monitoring 2 to 3 times per week including extremities of the network. <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 24 May 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>		