

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	Mountbolus PWS
Organisation	Uisce Éireann
Scheme Code	2500PUB1014
County	Offaly
Site Visit Reference No.	SV30505

Report Detail	
Issue Date	16/10/2024
Prepared By	Lisa Noone

Site Visit Detail			
Date Of Inspection	20/09/2024	Announced	Yes
Time In	11:00	Time Out	12:40
EPA Inspector(s)	Lisa Noone Cormac MacGearailt		
Additional Visitors			
Company Personnel	Uisce Éireann: Linda Doran, Shadreck Mavengano, Brendan McEvoy, David Doyle Offaly County Council (working in partnership with Uisce Éireann: Michael Carter		

> Summary of Key Findings

1. Mountbolus Water Treatment Plant is currently undergoing the Uisce Éireann Disinfection Programme upgrade, however the audit found that measures currently in place were not adequate to prevent inadequately treated water entering the distribution network.
2. There is no automatic shutdown of the plant in the event of high or low residual chlorine or high turbidity.
3. There is no continuous turbidity monitor in place to verify that water is adequately prepared for disinfection.
4. There is no automatic switchover between the chlorine dosing pumps in the event of failure.

> Introduction

Mountbolus Public Water Supply (PWS) produces circa. 36 m³/day of water serving a population of approximately 165 people. Raw water is abstracted from a shallow well located at the Water Treatment Plant (WTP) and treatment consists of chlorination only. Mountbolus WTP is currently going through the Uisce Éireann Disinfection Programme upgrade which is due for completion in October 2024 which includes the commissioning of a new borehole.

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

> Supply Zones Areas Inspected

Both boreholes and the treatment processes on-site were inspected as part of the audit.



1. Alarms, Inhibits & Oversight Audits 2024

		Answer
1.1	Is suitable continuous monitoring in place to verify treatment performance?	No
	Comment	
	1. There is no continuous turbidity monitor in place prior to chlorination to verify that turbidity is <1NTU at disinfection.	
		Answer
1.2	Are dial out arrangements suitable to allow a timely response?	No
	Comment	
	1. Critical alarms are dialled-out on a group-basis to operational personnel. Alarms are responded to on a hierarchical basis however there is no way of verifying that alarms have been responded to.	
		Answer
1.3	Has UÉ carried out an alarm and inhibit review at the water treatment plant?	No
		Answer
1.4	Are suitable plant shutdowns/inhibits in place to prevent the entry of inadequately treated water entering the distribution network?	No
	Comment	
	1. There are no automatic plant shutdowns currently in place for Mountbolus WTP.	
		Answer
1.5	Is there a documented alarm response procedure?	No
		Answer
1.6	Are there appropriate procedures covering verification of alarms and inhibits status following maintenance or other work on site?	No



2. Site Specific Issues

		Answer
2.1	Is there automatic switchover of chlorine dosing pumps?	No
	Comment	
	1. There is no automatic switchover of the chlorine dosing pumps in the event of a failure of the duty pump. Chlorine dosing pumps are manually switched over on a monthly basis.	
2.2	Are appropriate measures in place to protect water quality in the event that the old borehole is to remain in use?	No
	Comment	
	1. Uisce Éireann and Offaly County Council stated that the old borehole will remain in operation as a supplementary source in the event of drought and insufficient supply from the new borehole source.	
	2. Uisce Éireann could not confirm at the time of the audit if appropriate monitoring and alarms were due to remain place for the old borehole to alert operators of deteriorating water quality.	
2.3	Has a source and sanitary survey been carried out and a calculated log treatment requirement been assigned to the plant?	No

Recommendations

Subject	Mountbolus Audit Recommendations	Due Date	18/11/2024
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. Install a continuous turbidity monitor prior to chlorination and ensure that appropriate warning alarms/plant shutdowns are in place in to protect the 1 NTU disinfection limit.2. Install automatic shutdown linked to the high and low chlorine alarms and final water turbidity.3. Install automatic switchover in the event of failure of one of the chlorine dosing pumps.4. Ensure that the continuous turbidity monitor is installed at the old borehole and will remain in place and that alarms and inhibits are not bypassed if the old borehole source is to remain in operation.5. Carry out an Alarm and Inhibit Review post disinfection upgrade works and implement the findings to protect treatment processes and treated water quality.6. Complete a Source and Sanitary Survey and confirm the assigned log treatment requirement for the supply.7. Develop a procedure and deliver appropriate training (i) covering the verification of alarms/shutdowns status following maintenance or other works completed at the treatment plant, and (ii) for responding to and escalating all alarms generated at the water treatment plant. Both procedures should clearly document the corrective actions and set out delegation of responsibilities.8. Put in place an appropriate cascade system for responding to alarms generated at the plant which allows for verification that an alarm has been responded to. <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 the above due date 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>		