

# 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	
<b>Name of Installation</b>	Box Cross
<b>Organisation</b>	Uisce Éireann
<b>Scheme Code</b>	0500PUB1320
<b>County</b>	Cork
<b>Site Visit Reference No.</b>	SV29542

Report Detail	
<b>Issue Date</b>	17/05/2024
<b>Prepared By</b>	Paul Buckley

Site Visit Detail			
<b>Date Of Inspection</b>	09/05/2024	<b>Announced</b>	Yes
<b>Time In</b>	10:30	<b>Time Out</b>	11:30
<b>EPA Inspector(s)</b>	Paul Buckley		
<b>Additional Visitors</b>			
<b>Company Personnel</b>	Uisce Éireann: Claire Hurley, Cormac Bergin Cork County Council (working in partnership with Uisce Éireann): Frances Whorisky, Jason O'Donoghue, James Breen.		

## > Summary of Key Findings

1. The Box Cross water treatment plant was operating satisfactorily on the day of the audit.
2. The chlorine residual monitor associated with the pipeline servicing Mallow General Hospital is not located after contact time has been achieved. Contact time calculations submitted by Uisce Éireann indicate that adequate contact time is available.

## > Introduction

The Box Cross Public Water Supply (PWS) supplies an average of 4,600 m<sup>3</sup>/day and serves a population of 8,900. This is not reflective of the population served figure on the EPA EDEN system.

The supply is sourced from 3 No. boreholes with the combined boreholes undergoing treatment consisting of chlorination disinfection and fluoridation.

There are 2 No. pipelines originating from the plant, with one pipeline serving the Ballyvinitter reservoir and the other pipeline terminating at Mallow General Hospital.

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 treatment plant and the procedures in place to ensure appropriate oversight of treatment processes.

## > Supply Zones Areas Inspected

The borehole at the water treatment plant, chlorination disinfection system and the fluoridation system were inspected.



## 1. Management and Control

	Answer
1.1 Has the protozoal compliance log treatment requirement been identified for the water treatment plant?	No
<b>Comment</b>	
<p>The protozoal compliance log treatment requirement has not been identified for the water treatment plant. The sanitary survey has not been completed and no timeline for the completion of the survey was available during the audit.</p> <p><i>Cryptosporidium</i> monitoring is underway for the supply and there have been no detections to date.</p>	



## 2. Alarms, Inhibits & Oversight Audits 2024

	Answer	
2.1	Is there a chlorine residual monitor located after contact time for verification of primary disinfection?	No
<b>Comment</b>		
<p>There are 2 No. pipelines originating from the Box Cross water treatment plant, one servicing the Ballyvinitter reservoir and the other terminating at Mallow General Hospital.</p> <p>For the pipeline servicing the Ballyvinitter reservoir; there are no consumers served prior to the reservoir and the contact time calculations show that sufficient contact time is achieved in the pipeline and the reservoir. The chlorine residual monitor is located at the outlet of the reservoir.</p> <p>For the pipeline servicing Mallow General Hospital the contact time calculations submitted show that sufficient contact time is achieved in the pipeline before the first customer is supplied. The chlorine residual monitor for this pipeline is located at the water treatment plant, prior to contact time being achieved.</p> <p>Monitoring of the chlorine residual in the network showed compliant results at all locations.</p>		

	Answer	
2.2	Is continuous monitoring located appropriately to verify treatment performance?	No
<b>Comment</b>		
<p>The chlorine residual monitor for the pipeline servicing Mallow General Hospital is located at the water treatment plant and not after contact time has been achieved.</p>		

	Answer	
2.3	Has UÉ carried out an alarm and inhibit review at the water treatment plant?	No
<b>Comment</b>		
<p>Uisce Éireann have not carried out an alarm and inhibit review at the water treatment plant. No timeline for the completion of the review was available at the audit.</p>		



### 3. Site Specific Issues

	Answer
3.1 Is there continuous raw water turbidity monitoring in place on each borehole?	No
<b>Comment</b>	
There is no continuous raw water turbidity monitoring being carried out on each borehole to alert the operator to changes in the raw water quality. There is a combined water turbidity monitor with alarms/inhibits in operation.	

## Recommendations

Subject	Box Cross Audit Recommendations 09052024	Due Date	17/06/2024
<b>Action Text</b>	<p><b>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendation(s) without delay.</b></p> <ol style="list-style-type: none"><li>1. Install a chlorine monitor after contact time has been achieved in the pipeline servicing Mallow General Hospital with associated alarms and inhibits.</li><li>2. Install raw water turbidity monitors with associated alarms and inhibits on the 3 No. boreholes supplying the water treatment plant.</li><li>3. Undertake an Alarm and Inhibit Review of the plant and submit the findings.</li><li>4. i) Confirm the protozoal log treatment requirement for the water treatment plant, ii) provide details of how any protozoal log treatment deficit, if identified, will be addressed, and iii) continue to monitor the supply in accordance with Uisce Éireann's Rationale for Determining the Frequency of <i>Cryptosporidium</i> Monitoring in Public Water Supplies.</li><li>5. Update EDEN with the correct population served figure for the supply.</li></ol> <p><b>Actions required by Uisce Éireann</b></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 17/06/2024 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>		