

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	Cloyne
Organisation	Uisce Éireann
Scheme Code	0500PUB2403
County	Cork
Site Visit Reference No.	SV29543

Report Detail	
Issue Date	16/09/2024
Prepared By	Paul Buckley

Site Visit Detail			
Date Of Inspection	15/08/2024	Announced	Yes
Time In	11:25	Time Out	12:45
EPA Inspector(s)	Paul Buckley Kelly Oforji - Student		
Additional Visitors			
Company Personnel	Uisce Éireann - Claire Hurley, Sharon O'Dwyer, Cormac Bergin, Michael Millerick. Cork County Council (working in partnership with Uisce Éireann) - Padraig Griffin, Eimear O'Riordan		

> Summary of Key Findings

1. There are no high turbidity alarms in place at the Cloyne water treatment plant and there are no shutdowns in place on 3 No. of the boreholes supplying the water treatment plant. There are no high or low residual chlorine alarms or shutdowns in place at the water treatment plant.
2. There is no access to trend data at the water treatment plant.
3. The protozoal log treatment requirement for the Cloyne water treatment plant has not been determined. *Cryptosporidium* monitoring is ongoing within the supply and there have been no detections to date.

> Introduction

The Cloyne Public Water Supply (PWS) supplies an average of 2,305 m³/day of water, serving a population of 2,513 people.

The supply is sourced from 4 No. Boreholes, located at Lissanly, Town Parks, Killboy, and Farranmanagh respectively. Treatment at the water treatment plant consists of chlorination disinfection and fluoride dosing.

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 the treatment processes.

> Supply Zones Areas Inspected

The chlorine dosing system and dosing point, the fluoride dosing system, the chemical storage tanks, and the reservoir were inspected.



1. Management and Control

	Answer
1.1 Has the protozoal compliance log treatment requirement been identified for the water treatment plant?	No
Comment	
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.	



2. Alarms, Inhibits & Oversight Audits 2024

	Answer
2.1 Did staff confirm they have received training on the site specific incident response and incident escalation process?	No
Comment	
Uisce Éireann stated that staff at the treatment plant had not been formally trained on the procedures in place at the plant. This is scheduled to be completed in the coming weeks.	

	Answer
2.2 Is suitable continuous monitoring in place to verify treatment performance?	No
Comment	
Turbidity monitors are installed on all 4 No. boreholes serving the supply but only 1 No. turbidity monitor is currently trending. There is no turbidity monitor on the combined raw water entering the plant.	

	Answer
2.3 Were online monitors operational?	No
Comment	
The turbidity monitors at 3 No. of the boreholes serving the plant were not trending on the day of the audit.	

	Answer
2.4 Are suitable alarm settings in place to alert operators to deteriorating water quality or the failure of a critical treatment process?	No
Comment	
There are no alarms in place to alert operators to increasing turbidity.	
There are no high or low residual chlorine alarms or shutdowns in place at the water treatment plant.	

	Answer
2.5 Were all findings of the UÉ alarm and inhibit review implemented?	No
Comment	

A number of recommendations remain outstanding from the alarm and inhibit review undertaken by Uisce Éireann for the treatment plant, including but not limited to the following:

- The installation of a chlorine monitor on the reservoir inlet;
- The installation of a pH probe on the reservoir outlet.
- The installation of flow meters on the 4 No. boreholes.
- The installation of high turbidity alarms and shutdowns on all boreholes.

		Answer
2.6	Are suitable plant shutdowns/inhibits in place to prevent the entry of inadequately treated water entering the distribution network?	No
Comment		
<p>There are no shutdowns in place associated with high or low residual chlorine.</p> <p>The shutdown associated with high turbidity is in place for the Lissanly borehole only, and this is set at 2 NTU. This is not in line with EPA Guidance of 1 NTU to ensure adequate disinfection.</p> <p>There are no turbidity shutdowns associated with the remaining 3 No. boreholes serving the supply, or the combined raw water entering the plant.</p>		

		Answer
2.7	Are plant performance trends accessible by operational staff at the water treatment plant?	No
Comment		
<p>The computer system at the water treatment plant was not functioning on the day of the audit.</p> <p>Uisce Éireann indicated that a new computer system has been brought in to replace the malfunctioning unit.</p>		

		Answer
2.8	Did staff confirm they have been trained on the alarm response procedure?	No
Comment		
<p>Uisce Éireann stated that staff at the treatment plant had not been formally trained on the procedures in place at the plant. This is scheduled to be completed in the coming weeks.</p>		

Recommendations

Subject	Cloyne PWS Audit 15/08/2024 Recommendations	Due Date	16/10/2024
Action Text	<p>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendation(s) without delay.</p> <ol style="list-style-type: none">1. i) Implement appropriate turbidity alarms and shutdowns at the water treatment plant, and ii) Implement high and low residual chlorine alarms and shutdowns in line with the criteria outlined in the EPA Water Treatment Manual: Disinfection.2. Complete the works to restore the onsite telemetry and ensure that all monitors are trending onsite and on the countywide SCADA system.3. Complete the implementation of the findings of the alarms and inhibits review.4. i) Complete the source sanitary survey for the 4 No. groundwater sources and provide the protozoal log treatment requirements, ii) Provide details on how any log deficit, if identified, will be addressed, and iii) Continue to monitor <i>Cryptosporidium</i> as per the Uisce Éireann Rationale for Determining the Frequency of <i>Cryptosporidium</i> in Public Water Supplies.5. Confirm that all staff have been trained in all alarm response procedure and site specific incident response and escalation procedure. <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 16/10/2024 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>		