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	Drybridge
Organisation	Uisce Éireann
Scheme Code	2100PUB1020
County	Louth
Site Visit Reference No.	SV28387

Report Detail

Issue Date	18/12/2023
Prepared By	Lorcan Farrell

Site Visit Detail

Date Of Inspection	23/11/2023	**Announced**	Yes
Time In	10:30	**Time Out**	11:30
EPA Inspector(s) **Additional Visitors**	Lorcan Farrell		
Company Personnel	Uisce Éireann: Daniel Behan. Louth County Council (Working in partnership with Uisce Éireann): Patrick Callan, Dennis Grimes, Linda Lynch, Francis McGlew, Andrew White.		

Summary of Key Findings

1. There is no final water turbidity monitor in place at Drybridge Water Treatment Plant (WTP) to prevent inadequately treated water entering the supply.

2. The standby sodium hypochlorite dosing pump located at the treatment plant was out of service and not available for operation.

3. There is no chlorine residual monitor in place providing chlorine contact time verification for the treatment plant.

Introduction

Drybridge Public Water Supply serves a population of 1,346 (EDEN figure) and is supplied by Drybridge WTP. The treatment plant produces approximately 246 m3/day and sources its water from a single borehole located at the treatment plant. Treatment consists of chlorination disinfection.

The audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water.

Supply Zones Areas Inspected

The audit included a site tour of Drybridge WTP.

1. Source Protection

		Answer
1.1	Is the abstraction source(s) adequately protected against contamination?	No

Comment

1. The wellhead of the borehole supplying Drybridge WTP is located below ground level in a concrete chamber. *EPA Advice Note 14: Borehole Construction and Wellhead Protection* requires a cap on the borehole which was not present.

2. Disinfection

		Answer
2.1	Are duty and standby chlorine pumps/ UV units in operation?	No

Comment

1. There are duty and standby sodium hypochlorite dosing pumps in place at the treatment plant. However, the standby dosing pump was out of service and not available for operation as it was in need of repair. Louth County Council staff confirmed that the dosing pump had not been available for operation for the previous six months. No timescale was available for when the pump would be repaired/replaced.

		Answer
2.2	Is the residual chlorine monitored at a suitable sample location after contact time has been completed?	No

Comment

1. The chlorine contact time validation calculation for the treatment plant identifies the outlet of Tulleyallen Reservoir as the point of chlorine contact time validation. There is no residual chlorine monitor located on the outlet of the reservoir to provide verification of chlorine contact time. Louth County Council staff confirmed that works are ongoing to install a residual chlorine monitor at this location under the Uisce Éireann Disinfection Programme. Uisce Éireann confirmed after the audit that works under the disinfection programme are expected to be completed in Q2 2024.

2. There is a residual chlorine monitor (with associated alarms and plant shutdown setpoints) located after sodium hypochlorite dosing at the treatment plant. These settings ensure a suitable plant shutdown response to a dosing failure.

3. Management and Control

		Answer
3.1	Has the protozoal compliance log treatment requirement been identified for the water treatment plant?	No

Comment

1. An assessment of the protozoal log treatment requirement for Drybridge WTP has yet to be completed. No date was available for when an assessment would take place.

2. No operational monitoring under the Uisce Éireann Operational Monitoring Programme is taking place at the treatment plant.

		Answer
3.2	Are suitable plant shutdowns/inhibits in place to prevent the entry of inadequately treated water entering the distribution network?	No

Comment

1. There is no final water turbidity monitor in place at the treatment plant to prevent inadequately treated water entering the supply. Louth County Council staff confirmed that a final water turbidity monitor will be installed as part of the upgrade works under the Uisce Éireann Disinfection Programme which is due for completion in Q2 2024.

2. Information submitted after the audit indicated that manual daily turbidity monitoring began on 28/11/2023.

4. Site Specific Issues

		Answer
4.1	Did treatment process trends demonstrate that data was being captured and recorded on the SCADA system at all times?	No

Comment

1. Residual chlorine and flow trends for Drybridge WTP submitted before the audit indicated that data recording ceased on 14/11/2023. Louth County Council staff confirmed that a specialist contractor had attended site and identified the cause of the issue to be a network sim card in need of replacement. It was confirmed that the card was due to be replaced in the days following the audit.

2. Louth County Council staff confirmed that plant shutdown setpoints at the treatment plant were unaffected by the network sim card issue as they are controlled locally within the plant. However, warning alarms were not available to be dialed out to operational staff until the network sim card issue was resolved.

Recommendations

Subject	Drybridge - Audit Recommendations	Due Date	18/01/2024
Action Text	**Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendation(s) without delay.** 1. Turbidity: (i) Install a continuous turbidity monitor on the final treated water and ensure that appropriate warning alarms/plant shutdowns are in place in to protect the 1 NTU limit for disinfection, and (ii) carry out manual daily turbidity monitoring until a continuous turbidity monitor is operational. 2. Disinfection: (i) Repair/replace the standby sodium hypochlorite dosing pump at the treatment plant to ensure duty/standby dosing pumps are available at all times, and (ii) complete installation of a chlorine residual monitor including appropriate warning alarms and plant shutdown setpoints to ensure target chlorine contact time is achieved and verified at all times. 3. Protozoal Barrier: (i) Confirm the log treatment requirement for the treatment plant, and (ii) begin monitoring at the treatment plant under the Uisce Éireann Operational Monitoring Programme. 4. Install an appropriate cap on the borehole supplying the treatment plant. Uisce Éireann should have regard to *EPA Advice Note No. 14: Borehole Construction and Wellhead Protection* when carrying out these works. 5. Resolve the network communications issue at the treatment plant to ensure that: (i) alarms are dialed out to alert staff in the event that critical plant process alarms are triggered, and (ii) treatment plant process trends are recorded at all times. **Actions required by Uisce Éireann** 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 18/01/2024 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.		