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	Stratford Public Supply
Organisation	Uisce Éireann
Scheme Code	3400PUB1029
County	Wicklow
Site Visit Reference No.	SV32070

Report Detail

Issue Date	11/11/2025
Prepared By	Derval Devaney

Site Visit Detail

Date Of Inspection	20/10/2025	**Announced**	Yes
Time In	09:30	**Time Out**	10:30
EPA Inspector(s) **Additional Visitors**	Derval Devaney		
Company Personnel	Uisce Éireann (UÉ): Linda Doran. EPS Group: David Logue.		

Summary of Key Findings

1. A chlorine monitor was not in place at the outlet of the reservoir to verify adequate disinfection was being achieved.
2. There is no alarm or automatic plant shutdown mechanism in the event that adequate disinfection is not achieved in the reservoir.
3. Turbidity results were not available during or after the audit to determine if a continuous turbidity monitor is required at the plant.

Introduction

Stratford Public Water Supply (PWS) produces approximately 10 m3/hour serving a population of 504. The raw water is sourced from an on-site borehole (Freynestown Lower Well). An off-site spring source (Freynestown Spring) is also available, but this has not been used for a number of years. Treatment provided includes disinfection using sodium hypochlorite and is managed by a contractor under a design, build and operate (DBO) contract.

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 water treatment plant (WTP) and the procedures in place to ensure appropriate oversight of treatment processes.

Supply Zones Areas Inspected

The borehole and treatment process at the water treatment plant were inspected in addition to the chlorine contact tank and reservoir located at the water treatment plant. The spring off-site was not inspected.

1. Alarms, Inhibits & Oversight Audits 2025

		Answer
1.1	Is there a chlorine residual monitor located after contact time for verification of primary disinfection?	No

Comment

1. There is no continuous chlorine residual monitor at the outlet of the reservoir to confirm the effectiveness of the disinfection process.
2. In addition, although the calculation sheet indicates sufficient chlorine contact time at the water treatment plant — accounting for both the contact tank and on-site reservoir - the contractor questioned the accuracy of the reservoir volume used in the Ct calculation (82.01 m3), believing the actual volume to be greater.
3. A chlorine residual sample is taken once per week at the outlet of the reservoir.

		Answer
1.2	Is there a documented site specific incident response and incident escalation process?	Yes

Comment

1. UÉ's Water Incident Communication Response Guidance Form is displayed at the plant; however, it needs to be updated to reflect the minimum chlorine concentration required for the site, as outlined in the Ct calculation.
2. The Ct calculation specifies that a minimum free chlorine concentration of 0.3 mg/l is required at the Ct validation point (i.e., the outlet of the on-site reservoir). In contrast, the current Guidance Form states a minimum of 0.25 mg/l, which does not meet the Ct calculation specifications.

		Answer
1.3	Is suitable continuous monitoring in place to verify treatment performance?	Yes

Comment

1. A continuous chlorine residual monitor is in place at the water treatment plant to verify the chlorine concentrations within the contact tank. It is the only continuous monitor at the plant and is configured to alarm at 0.45 mg/l (high) and 0.3 mg/l (low), with a time delay of 300 seconds.
2. Monthly final water samples are being taken and analysed by an accredited lab. The results were not available to review during or after the audit.
3. It was not possible to determine if a continuous turbidity monitor is also needed to verify the adequacy of the disinfection process, as turbidity results were unavailable for review. Such results would assist in determining if there is a surface water influence on the source, and therefore, if a continuous turbidity monitor is required at the water treatment plant (WTP).

		Answer
1.4	Are suitable alarm settings in place to alert operators to deteriorating water quality or the failure of a critical treatment process?	No

Comment

1. There is no chlorine monitor with an alarm and automatic plant shutdown located on the outlet of the reservoir on-site (when contact time has elapsed) to alert operators and prevent inadequately disinfected water entering the network.

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

Comment

1. There are no plant shutdown/inhibits in place at this plant.
2. See Q. 1.4 relating to the lack of a plant shutdown mechanism post disinfection contact time.

Recommendations

Subject	Stratford PWS 2025 Audit Recommendations	**Due Date**	11/12/2025
Action Text	**Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.** 1. Review the reservoir volume used in the contact time calculation to confirm its accuracy. If recalculation is necessary, submit the revised Ct calculation. 2. Install a continuous chlorine monitor post contact time with appropriate alarms and plant inhibits to validate adequate disinfection has been achieved and to protect water quality targets. 3. Carry out and document daily chlorine monitoring at the reservoir's outlet until continuous chlorine monitoring is in place at this location. 4. Update the UÉ Incident Communications Response Guidance Form at the plant to include site-specific target values. 5. Clarify whether the groundwater source is influenced by surface water and submit monitoring results to verify the response. Prior to the spring source being reintroduced or if the groundwater source is influenced by surface water, UÉ should install a continuous turbidity monitor, in accordance with *EPA Advice Note No. 5*, to verify the performance of the treatment barrier. **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 the above due date 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.		