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	Bilberry
Organisation	Uisce Éireann
Scheme Code	0500PUB2401
County	Cork
Site Visit Reference No.	SV35072

Report Detail

Issue Date	07/05/2026
Prepared By	Noel Cosgrove

Site Visit Detail

Date Of Inspection	02/04/2026	**Announced**	Yes
Time In	11:30	**Time Out**	12:00
EPA Inspector(s) **Additional Visitors**	Noel Cosgrove Anna Doyle		
Company Personnel	Uisce Éireann: Claire Kelly, Sam Heinen, Sharon O'Dwyer & M Hassan Shabbir. Cork County Council: Padraig Griffin.		

Summary of Key Findings

1. Disinfection consists of primary UV disinfection and secondary Chlorination.

2. Ensure monitoring of residual chlorine is undertaken several times a week at different points of the network to include the network extremities.

3. There are a number of deficiencies in relation to the UV disinfection system including i) lack duty and standby UV units, ii) lack of a suitable shutdown on the existing UV unit, and iii) a lack of a escalation cascade system for UV alarms.

Uisce Éireann should submit a report to the EPA on or before 07/06/2026 detailing the actions taken and planned, with timescales, to close out the recommendations in this audit report.

Introduction

Bilberry WTP produces approximately 9 m3/day of water serving a population of 16. The audit focused on the disinfection system at Bilberry WTP.

Supply Zones Areas Inspected

The audit assessed both the UV and Chlorination disinfection systems at Bilberry PWS.

1. Disinfection Audits 2026

		Answer
1.1	Is chlorination used for primary disinfection?	No
	Comment	
	1. UV treatment is used for primary disinfection.	

		Answer
1.2	Did Uisce Éireann confirm the type of chlorine disinfectant in use?	Yes
	Comment	
	1. 5% Sodium Hypochlorite Solution.	

		Answer
1.3	Are there duty and standby chlorine dosing pumps in place?	Yes

		Answer
1.4	Is there automatic switchover in the event of failure of one of the chlorine dosing pumps?	Yes

		Answer
1.5	Is the chlorine dosing rate flow proportional?	Yes

		Answer
1.6	Is there a continuous residual chlorine monitor, with alarm, to verify chlorine dosing is taking place at the target level?	Yes

		Answer
1.7	Is there a continuous residual chlorine monitor, with alarm, at a suitable sample location after contact time has been completed?	No
	Comment	

1. UV treatment is used for primary disinfection.

		Answer
1.8	Can data trends from the online residual monitor be viewed on site?	Yes

		Answer
1.9	Are there low and high chlorine alarm settings on each chlorine monitor?	Yes

Comment

1. High Alarm set at 2.000 mg/L.

2. Low Alarm set at 0.500 mg/L.

		Answer
1.10	Is there a documented alarm response procedure for responding to chlorine alarms?	Yes

		Answer
1.11	Have staff been trained on the chlorine alarm response procedure?	Yes

		Answer
1.12	Are chlorine alarms dialled out via a cascade system to allow a timely response by plant operators?	Yes

		Answer
1.13	Is there automatic shutdown of the supply in the event of the chlorine level dropping below the low level or rising above the high chlorine alarm setting?	Yes

		Answer
1.14	Are service due / monitoring instrument calibration dates for the chlorine monitors within date?	Yes

		Answer
1.15	Is the residual chlorine level ≥ 0.1 mg/l at the extremity of the distribution network?	Yes

		Answer
1.16	Is monitoring of network residual chlorine undertaken several times per week?	No

Comment

1. Since 04/03/26, monitoring has been taking place once per week in two locations on the same day.

Recommendation:

1. Ensure monitoring of residual chlorine is undertaken several times a week at different points of the network to include network extremities.

		Answer
1.17	Is UV treatment used for primary disinfection?	Yes

		Answer
1.18	Are there duty and standby UV units in operation?	No

Comment

1. Uisce Éireann confirmed there are no duty and standby UV units in operation.

2. It was found there was no automatic shut-off installed on the duty standby triggered in the event of failure of the UV treatment unit.

Recommendation:

2. Ensure that there are duty and standby UV disinfection units with automatic changeover or plant shutdown in the event of failure of one of the UV disinfection units

		Answer
1.19	Is there automatic shut-off of the supply in the event of UV units failing or operating outside of their validated range?	No

Comment

1. There is no automatic shut-off of the UV units triggered in the event the UV units operate outside their validated range.

Recommendation

3. Ensure there is automatic plant shutdown in the event the UV unit drops outside of the validated range.

		Answer

1.20	Is there continuous monitoring of the UV units to verify operation within validation range at all times?	Yes

		Answer
1.21	Can data trends from the online UV monitor(s) be viewed on-site?	Yes

		Answer
1.22	Is there a documented alarm response procedure for responding to UV alarms?	Yes

		Answer
1.23	Have staff been trained on the UV alarm response procedure?	Yes

		Answer
1.24	Are UV alarms dialled out via a cascade system to allow a timely response by plant operators?	No

Comment

1. Uisce Éireann confirmed that UV alarms are not dialled out to operators via a cascade system.

Recommendation

4. Ensure that UV alarms are dialled out to a number of staff to allow a timely response in the event of staff unavailability.

		Answer
1.25	Are service due / monitoring instrument calibration dates for the UV units within date?	Yes

		Answer
1.26	Is the UV disinfection system validated to an appropriate international standard ?	Yes

		Answer
1.27	Did UÉ confirm that the UV disinfection system is operating within the validated range?	Yes

Recommendations

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 is responsible for ensuring a clean and wholesome supply of drinking water and should implement the recommendations raised in this report without delay.

Response to Audit Report

Uisce Éireann should submit a report to the EPA on or before the date specified in the Summary of Key Findings detailing the actions taken and planned, with timescales, to close out the recommendations in this audit report.

The EPA advises that the findings and recommendations from this report should, where relevant, be addressed at other public water supplies.

Publication of Reports

Audit reports are published to the EPA's website, www.epa.ie, typically 1 month after the audit report is issued to Uisce Éireann.