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	Two Mile Borris
Organisation	Uisce Éireann
Scheme Code	2800PUB1020
County	Tipperary
Site Visit Reference No.	SV28224

Report Detail

Issue Date	19/10/2023
Prepared By	Joanne Creedon

Site Visit Detail

Date Of Inspection	03/10/2023	**Announced**	Yes
Time In	10:27	**Time Out**	10:54
EPA Inspector(s)	Joanne Creedon Veronica Boland		
Additional Visitors			
Company Personnel	Uisce Eireann: Denis McGrath Tipperary County Council (working in partnership with Uisce Éireann): David Brown, Aidan Delaney, Clint Cummins.		

Summary of Key Findings

(1) Disinfection consists of chlorination and ultraviolet (UV) treatment. The audit found that the disinfection system was operating satisfactorily during the inspection.

(2) Uisce Eireann should ensure there is a documented alarm response procedure for responding to chlorine and UV alarms.

(3) The UV system consists of one UV disinfection unit only. Uisce Éireann should 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.

Introduction

Two Mile Borris produces approximately 323 m3/d of water serving a population of 788 (EDEN figures). The audit focused on the disinfection system at Two Mile Borris.

Supply Zones Areas Inspected

This audit assessed the chlorination and ultraviolet (UV) disinfection system at Two Mile Borris.

1. Disinfection Audits 2023

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

		Answer
1.2	Did Uisce Éireann confirm the type of chlorine disinfectant in use?	Yes

		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	Can data trends from the online residual monitor be viewed on site?	No

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

		Answer
1.9	Is there a documented alarm response procedure for responding to chlorine alarms?	No

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

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

		Answer
1.12	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
1.13	Are service due / monitoring instrument calibration dates for the chlorine monitors within date?	Yes

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

		Answer
1.15	Is monitoring of network residual chlorine undertaken several times per week?	Yes

		Answer
1.16	Is UV treatment used for primary disinfection?	Yes

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

One UV unit

		Answer
1.18	Is there automatic changeover between the duty and standby UV units?	No

		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?	Yes

		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?	No

		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?	Yes

		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
	Comment	

Recommendations

Subject	Two Mile Borris - Disinfection Audit	Due Date	19/11/2023
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. Uisce Eireann should ensure that residual chlorine trends are available and accessible on site to plant operators via SCADA / HMI. 2. Uisce Eireann should ensure there is a documented alarm response procedure for responding to chlorine alarms. 3. Uisce Eireann should 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. 4. Uisce Eireann should ensure there is automatic switch over between the duty and standby UV units in the event of failure of one of the UV disinfection units. 5. Uisce Eireann should ensure there is a documented alarm response procedure for responding to UV alarms. **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 19/11/2023 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.		