

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 | Ballyconnell PWS |
| Organisation | Uisce Éireann |
| Scheme Code | 0200PUB0105 |
| County | Cavan |
| Site Visit Reference No. | SV30660 |

| Report Detail | |
|---------------|----------------|
| Issue Date | 10/01/2025 |
| Prepared By | Elaine Greenan |

| Site Visit Detail | | | |
|---------------------|--|-----------|-------|
| Date Of Inspection | 03/12/2024 | Announced | No |
| Time In | 11:30 | Time Out | 13:00 |
| EPA Inspector(s) | Elaine Greenan | | |
| Additional Visitors | | | |
| Company Personnel | Uisce Éireann: Regina Burke. Cavan County Council (working in partnership with Uisce Éireann): Ciaran Fitzpatrick, Gary Boyd. | | |

> Summary of Key Findings

1. The audit found that the Ballyconnell water treatment plant was operating and performing well in providing clean and wholesome water to the public supply.

> Introduction

The Ballyconnell Public Water Supply (PWS) produces approximately 1,384 m³/d of water serving a population of 762.0 (EDEN 2024). The audit focused on the chlorine and UV disinfection systems at Ballyconnell PWS.

> Supply Zones Areas Inspected

This audit assessed chlorine and UV disinfection systems at Ballyconnell PWS.



1. Disinfection Audits 2024

| | | |
|-----|---|----------------|
| | | Answer |
| 1.1 | Is chlorination used for primary disinfection? | Yes |
| | | Answer |
| 1.2 | Did Uisce Éireann confirm the type of chlorine disinfectant in use? | Yes |
| | Comment | |
| | 10% Sodium Hypochlorite | |
| | | 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 the chlorine dosing rate fixed? | Not Applicable |
| | | Answer |
| 1.7 | Is there a continuous residual chlorine monitor, with alarm, to verify chlorine dosing is taking place at the target level? | Yes |
| | | Answer |
| 1.8 | Is there a continuous residual chlorine monitor, with alarm, at a suitable sample location after contact time has been completed? | Yes |
| | | Answer |
| 1.9 | Can data trends from the online residual monitor be viewed on site? | Yes |

| | | |
|------|--|---------------|
| | | Answer |
| 1.10 | Are there low and high chlorine alarm settings on each chlorine monitor? | Yes |
| | | Answer |
| 1.11 | Is there a documented alarm response procedure for responding to chlorine alarms? | Yes |
| | | Answer |
| 1.12 | Have staff been trained on the chlorine alarm response procedure? | Yes |
| | | Answer |
| 1.13 | Are chlorine alarms dialled out via a cascade system to allow a timely response by plant operators? | Yes |
| | Comment | |
| | Text to phone, cascade system in place. | |
| | | Answer |
| 1.14 | 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 |
| 1.15 | Are service due / monitoring instrument calibration dates for the chlorine monitors within date? | Yes |
| | | Answer |
| 1.16 | Is the site specific target contact time being achieved? | Yes |
| | | Answer |
| 1.17 | Is the minimum effective contact time of 15 mg. min/l being achieved? | Yes |
| | | Answer |

| | | |
|------|---|---------------|
| 1.18 | Is the residual chlorine level \geq 0.1 mg/l at the extremity of the distribution network? | Yes |
| | | Answer |
| 1.19 | Is monitoring of network residual chlorine undertaken several times per week? | Yes |
| | | Answer |
| 1.20 | Is UV treatment used for primary disinfection? | No |
| | | Answer |
| 1.21 | Are there duty and standby UV units in operation? | Yes |
| | | Answer |
| 1.22 | Is there automatic changeover between the duty and standby UV units? | Yes |
| | | Answer |
| 1.23 | Is there automatic shut-off of the supply in the event of UV units failing or operating outside of their validated range? | Yes |
| | | Answer |
| 1.24 | Is there continuous monitoring of the UV units to verify operation within validation range at all times? | Yes |
| | | Answer |
| 1.25 | Can data trends from the online UV monitor(s) be viewed on-site? | Yes |
| | | Answer |
| 1.26 | Is there a documented alarm response procedure for responding to UV alarms? | Yes |
| | | Answer |
| 1.27 | Have staff been trained on the UV alarm response procedure? | Yes |

| | | |
|-------------|---|---------------|
| | | Answer |
| 1.28 | Are UV alarms dialled out via a cascade system to allow a timely response by plant operators? | Yes |
| | Comment | |
| | Yes same cascade system as for chlorination alarms. | |
| | | |
| | | Answer |
| 1.29 | Are service due / monitoring instrument calibration dates for the UV units within date? | Yes |
| | | |
| | | Answer |
| 1.30 | Is the UV disinfection system validated to an appropriate international standard ? | Yes |
| | | |
| | | Answer |
| 1.31 | Did UÉ confirm that the UV disinfection system is operating within the validated range? | Yes |

Recommendations

| Subject | Audit Recommendations | Due Date | 10/02/2025 |
|-------------|--|----------|------------|
| Action Text | <p>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendation without delay.</p> <ol style="list-style-type: none">1. Ensure that the disinfection stage continues to be suitably managed and operated at all times. <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 10/02/2025 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> | | |