

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	Carrowgarraff
Organisation	Uisce Éireann
Scheme Code	3100PUB1027
County	Waterford
Site Visit Reference No.	SV32450

Report Detail	
Issue Date	02/05/2025
Prepared By	Chris Fennell

Site Visit Detail			
Date Of Inspection	10/04/2025	Announced	No
Time In	10:20	Time Out	11:00
EPA Inspector(s)	Chris Fennell Anna Doyle		
Additional Visitors			
Company Personnel	Uisce Éireann: Melissa Devane Waterford County Council (working in partnership with Uisce Éireann): David Hourigan, Michael Hallihan		

> Summary of Key Findings

1. Disinfection consists of primary UV disinfection and secondary chlorination.
2. The UV validation certificate was not available for inspection.

> Introduction

The Carrowgarraif WTP produces approximately 301 m³/d of water serving a population 41 (EDEN figures). The audit focused on the disinfection system at Carrowgarraif WTP.

> Supply Zones Areas Inspected

This audit assessed the UV and chlorination disinfection system at Carrowgarraif WTP.



		Answer
1.1	Did Uisce Éireann confirm the type of chlorine disinfectant in use?	Yes
	Comment	
	1. 10% Sodium Hypochlorite confirmed.	
		Answer
1.2	Are there duty and standby chlorine dosing pumps in place?	Yes
		Answer
1.3	Is there automatic switchover in the event of failure of one of the chlorine dosing pumps?	Yes
		Answer
1.4	Is the chlorine dosing rate flow proportional?	Yes
		Answer
1.5	Is there a continuous residual chlorine monitor, with alarm, to verify chlorine dosing is taking place at the target level?	Yes
		Answer
1.6	Can data trends from the online residual monitor be viewed on site?	Yes
		Answer
1.7	Are there low and high chlorine alarm settings on each chlorine monitor?	Yes
		Answer
1.8	Is there a documented alarm response procedure for responding to chlorine alarms?	Yes
		Answer
1.9	Have staff been trained on the chlorine alarm response procedure?	Yes

	Answer
1.10	Are chlorine alarms dialled out via a cascade system to allow a timely response by plant operators?
	Yes
	Answer
1.11	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
1.12	Are service due / monitoring instrument calibration dates for the chlorine monitors within date?
	Yes
	Answer
1.13	Is the residual chlorine level ≥ 0.1 mg/l at the extremity of the distribution network?
	Yes
	Answer
1.14	Is monitoring of network residual chlorine undertaken several times per week?
	Yes
	Answer
1.15	Is UV treatment used for primary disinfection?
	Yes
	Answer
1.16	Is there automatic shut-off of the supply in the event of UV units failing or operating outside of their validated range?
	Yes
	Answer
1.17	Is there continuous monitoring of the UV units to verify operation within validation range at all times?
	Yes
	Answer
1.18	Can data trends from the online UV monitor(s) be viewed on-site?
	Yes

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

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

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

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

		Answer
1.23	Is the UV disinfection system validated to an appropriate international standard ?	No
Comment		
1. The UV validation certificate was not available for inspection.		

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

Recommendations

Subject	Audit Recommendations	Due Date	02/06/2025
Action Text	<p>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations 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.2. Ensure that the UV disinfection system is validated to an appropriate international validation standard and that a copy of the validation certificate is maintained. <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 02/06/2025 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>		