

# 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	Carrigeen
Organisation	Uisce Éireann
Scheme Code	3100PUB1025
County	Waterford
Site Visit Reference No.	SV32206

Report Detail	
Issue Date	02/05/2025
Prepared By	Pauline Gillard

Site Visit Detail			
Date Of Inspection	03/04/2025	Announced	No
Time In	11:00	Time Out	11:20
EPA Inspector(s)	Pauline Gillard Noel Cosgrove		
Additional Visitors			
Company Personnel	Uisce Éireann: Melissa Devane, David Hourigan Waterford County Council (working in partnership with Uisce Éireann): James Power		

## > Summary of Key Findings

This audit assessed the chlorination disinfection system at Carrigeen WTP.

## > Introduction

1. There is no 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.
2. No data trends from the online residual monitor were available on site.

## > Supply Zones Areas Inspected

The Carrigeen WTP produces approximately 6 m<sup>3</sup>/d of water serving a population 23 (EDEN figures). The audit focused on the disinfection system at Carrigeen WTP.



## 1. Disinfection Audits 2025

		<b>Answer</b>
1.1	Is chlorination used for primary disinfection?	Yes
		<b>Answer</b>
1.2	Did Uisce Éireann confirm the type of chlorine disinfectant in use?	Yes
	<b>Comment</b>	
	1. Sodium Hypochlorite confirmed.	
		<b>Answer</b>
1.3	Are there duty and standby chlorine dosing pumps in place?	Yes
		<b>Answer</b>
1.4	Is there automatic switchover in the event of failure of one of the chlorine dosing pumps?	Yes
		<b>Answer</b>
1.5	Is the chlorine dosing rate flow proportional?	Yes
		<b>Answer</b>
1.6	Is there a continuous residual chlorine monitor, with alarm, to verify chlorine dosing is taking place at the target level?	Yes
		<b>Answer</b>
1.7	Is there a continuous residual chlorine monitor, with alarm, at a suitable sample location after contact time has been completed?	Yes
		<b>Answer</b>
1.8	Can data trends from the online residual monitor be viewed on site?	No
	<b>Comment</b>	

1. No data trends from the online residual monitor were available on site.

		<b>Answer</b>
1.9	Are there low and high chlorine alarm settings on each chlorine monitor?	Yes
		<b>Answer</b>
1.10	Is there a documented alarm response procedure for responding to chlorine alarms?	Yes
		<b>Answer</b>
1.11	Have staff been trained on the chlorine alarm response procedure?	Yes
		<b>Answer</b>
1.12	Are chlorine alarms dialled out via a cascade system to allow a timely response by plant operators?	Yes
		<b>Answer</b>
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?	No
	<b>Comment</b>	
	1. There are no high/low plant automatic shutdown setpoints in place to prevent inadequately treated water entering supply in the event of a chlorination system failure.	
		<b>Answer</b>
1.14	Are service due / monitoring instrument calibration dates for the chlorine monitors within date?	Yes
		<b>Answer</b>
1.15	Is the site specific target contact time being achieved?	Yes
		<b>Answer</b>
1.16	Is the minimum effective contact time of 15 mg. min/l being achieved?	Yes

		<b>Answer</b>
<b>1.17</b>	Is the residual chlorine level $\geq$ 0.1 mg/l at the extremity of the distribution network?	Yes

		<b>Answer</b>
<b>1.18</b>	Is monitoring of network residual chlorine undertaken several times per week?	Yes

## Recommendations

Subject	Audit Recommendations	Due Date	02/06/2025
Action Text	<p><b>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.</b></p> <ol style="list-style-type: none"><li>1. Ensure that residual chlorine trends are available and accessible on site to plant operators via SCADA / HMI.</li><li>2. Install automatic shutdown of the plant linked to the low and high residual chlorine alarm settings.</li></ol> <p><b>Actions required by Uisce Éireann</b></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>		