

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	Littleton PWS
Organisation	Uisce Éireann
Scheme Code	2800PUB1014
County	Tipperary
Site Visit Reference No.	SV28225

Report Detail	
Issue Date	19/10/2023
Prepared By	Joanne Creedon

Site Visit Detail			
Date Of Inspection	03/10/2023	Announced	Yes
Time In	11:00	Time Out	11:20
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, Lenny Philips.		

> Summary of Key Findings

(1) Disinfection consists of chlorination.

(2) There is no low chlorine alarm at the plant. Uisce Éireann should install a continuous chlorine residual monitor, which is alarmed and linked to a recording device, to ensure that either a sudden increase in chlorine demand or a failure of the chlorine dosing system is immediately detected and responded to.

> Introduction

The Littleton Public Water Supply (PWS) produces approximately 163 m³/d of water serving a population of 512 (EDEN figures). The audit focused on the disinfection system at the Littleton PWS.

> Supply Zones Areas Inspected

This audit assessed the chlorination disinfection system at Littleton PWS.



1. Disinfection Audits 2023

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

1.8	Can data trends from the online residual monitor be viewed on site?	No
		Answer
1.9	Are there low and high chlorine alarm settings on each chlorine monitor?	No
		Answer
1.10	Is there a documented alarm response procedure for responding to chlorine alarms?	No
		Answer
1.11	Have staff been trained on the chlorine alarm response procedure?	No
		Answer
1.12	Are chlorine alarms dialled out via a cascade system to allow a timely response by plant operators?	No
		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?	No
		Answer
1.14	Are service due / monitoring instrument calibration dates for the chlorine monitors within date?	Yes
		Answer
1.15	Is the site specific target contact time being achieved?	Yes
		Answer
1.16	Is the residual chlorine level ≥ 0.1 mg/l at the extremity of the distribution network?	Yes
		Answer
1.17	Is monitoring of network residual chlorine undertaken several times per week?	Yes

Recommendations

Subject	Littleton PWS - Disinfection Audit	Due Date	19/11/2023
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"><li>1. Uisce Eireann should install duty and standby chlorine dosing pumps with automatic switch in the event of the failure of one of the pumps.<li>2. Uisce Eireann should install a continuous chlorine residual monitor, which is alarmed and linked to a recording device, to ensure that either a sudden increase in chlorine demand or a failure of the chlorine dosing system is immediately detected and responded to.<li>3. Uisce Eireann should install a chlorine residual monitor, with alarm, at a location after contact time has been achieved to verify adequate contact time is being maintained at all times.<li>4. Uisce Eireann should ensure that residual chlorine trends are available and accessible on site to plant operators via SCADA / HMI.<li>5. Uisce Eireann should undertake a review of the chlorine alarm settings and ensure appropriate high and low levels alarm setpoints are operational.<li>6. Uisce Eireann should ensure there is a documented alarm response procedure for responding to chlorine alarms.<li>7. Uisce Eireann should ensure all staff are trained on the chlorine alarm response procedure.<li>8. Uisce Eireann should ensure that chlorine alarms are dialled out to a number of staff to allow a timely response in the event of staff unavailability.<li>9. Uisce Eireann should install automatic shutdown of the plant linked to the low and high residual chlorine alarm settings. <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 19/11/2023 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>		