

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	Galmoy Rathdowney PWS
Organisation	Uisce Éireann
Scheme Code	1500PUB1025
County	Kilkenny
Site Visit Reference No.	SV30490

Report Detail	
Issue Date	31/10/2024
Prepared By	Joanne Creedon

Site Visit Detail			
Date Of Inspection	01/10/2024	Announced	Yes
Time In	10:40	Time Out	11:12
EPA Inspector(s)	Joanne Creedon		
Additional Visitors			
Company Personnel	Uisce Éireann: Denis McGrath. Kilkenny County Council (working in partnership with Uisce Éireann): David T Phelan, David McArdle, Keoin Hogan.		

> Summary of Key Findings

- 1) Disinfection consists of UV (primary) and chlorination (secondary).
- 2) Switchover between the chlorine dosing pumps is manual.
- 3) There is no documented alarm response procedure for responding to chlorine or UV alarms.

> Introduction

The Galmoy Rathdowney Public Water Supply (PWS) produces approximately 1,158 m³/d of water serving a population of 1,611 (EDEN 2024). The audit focused on the disinfection system at Galmoy Rathdowney PWS.

> Supply Zones Areas Inspected

This audit assessed the chlorination and UV disinfection system at Galmoy Rathdowney PWS.



1. Disinfection Audits 2024

	Answer
1.1 Is chlorination used for primary disinfection?	No
Comment	
Secondary	

	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	

	Answer
1.5 Is the chlorine dosing rate flow proportional?	No

	Answer
1.6 Is the chlorine dosing rate fixed?	Yes
Comment	
Operates between two setpoints: 0.4-0.8	

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?	No
		Answer
1.12	Have staff been trained on the chlorine alarm response procedure?	No
		Answer
1.13	Are chlorine alarms dialled out via a cascade system to allow a timely response by plant operators?	Yes
		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?	No
		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 residual chlorine level \geq 0.1 mg/l at the extremity of the distribution network?	Yes

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

		Answer
1.19	Is UV treatment used for primary disinfection?	Yes
	Comment	
	Primary	

		Answer
1.20	Are there duty and standby UV units in operation?	Yes

		Answer
1.21	Is there automatic changeover between the duty and standby UV units?	No
	Comment	
	Manual. Changed over every month but can have automatic set-up.	

		Answer
1.22	Is there automatic shut-off of the supply in the event of UV units failing or operating outside of their validated range?	Yes

		Answer
1.23	Is there continuous monitoring of the UV units to verify operation within validation range at all times?	Yes

		Answer
--	--	---------------

1.24	Can data trends from the online UV monitor(s) be viewed on-site?	No
		Answer
1.25	Is there a documented alarm response procedure for responding to UV alarms?	No
		Answer
1.26	Have staff been trained on the UV alarm response procedure?	No
		Answer
1.27	Are UV alarms dialled out via a cascade system to allow a timely response by plant operators?	Yes
		Answer
1.28	Are service due / monitoring instrument calibration dates for the UV units within date?	Yes
		Answer
1.29	Is the UV disinfection system validated to an appropriate international standard ?	Yes
		Answer
1.30	Did UÉ confirm that the UV disinfection system is operating within the validated range?	Yes

Recommendations

Subject	Galmoy Rathdowney PWS - Disinfection Audit	Due Date	28/11/2024
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. Install duty and standby chlorine dosing pumps with automatic switchover in the event of the failure of one of the pumps.2. Ensure that chlorine dosing is flow proportional or is linked to the residual chlorine monitor. Where the dosing pump is fixed Uisce Éireann should replace the pumps with flow proportional pumps or pumps capable of dosing based on the residual chlorine.3. Ensure there is a documented alarm response procedure for responding to chlorine and UV alarms.4. Ensure all staff are trained on the chlorine and UV alarm response procedure.5. Install automatic shutdown at the plant linked to the low and high residual chlorine alarm settings.6. Ensure there is automatic switchover between the duty and standby UV units in the event of failure of one of the UV disinfection units.7. Ensure that the UV system operates within its validated range at all times and that the performance of the UV system can be verified at all times by providing access to trended operational data. <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 28/11/2024 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>		