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	Rosmuc PWS
Organisation	Uisce Éireann
Scheme Code	1200PUB1043
County	Galway
Site Visit Reference No.	SV32077

Report Detail

Issue Date	14/05/2025
Prepared By	Maria O'Connell

Site Visit Detail

Date Of Inspection	23/04/2025	**Announced**	Yes
Time In	11:00	**Time Out**	12:45
EPA Inspector(s) **Additional Visitors**	Maria O'Connell		
Company Personnel	Uisce Éireann: Brendan Hayes, Vincent McGrath, Wayne Keady, Mattie Cloherty.		

Summary of Key Findings

1. A continuous residual chlorine monitor was not installed at the point of chlorine contact time validation as per the calculation submitted. The site operator outlined that measures are underway to address this issue.

2. On inspection of the alarm history on UV Unit No 1 it was noted that alarms for low dose were registered on the HMI however plant operators confirmed that they did not receive such alarms. These alarms were not detailed on the SCADA system.

3. The depth of the filter media was reported at approximately 520mm which is below the EPA guidance value of 1000-1200mm. The site operator outlined that works to increase the depth of the filter media were in progress.

Introduction

The Rosmuc Public Water Supply serves a population of 428 customers. The plant currently produces 17m3/h with an average daily production volume of approximately 300m3/day. Raw water is abstracted onsite from Loch Oiriúlach (Lough Aroolagh). Treatment consists of pH adjustment, coagulation, dissolved air flotation and filtration, UV and chlorination using sodium hypochlorite. Uisce Éireann confirmed that a source and sanitary survey had been completed and a 3 log protozoal treatment requirement has been assigned to the source. There is one reservoir on the supply located offsite with the capacity for approximately 24 hours treated water storage in the event of plant shutdown.

This audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water with a focus on the alarms and inhibits in place at the treatment plant to ensure the appropriate oversight of treatment processes.

Supply Zones Areas Inspected

The audit included a site tour of the abstraction point and treatment processes at Rosmuc WTP with site personnel.

1. Alarms, Inhibits & Oversight Audits 2025

		Answer
1.1	Is there a chlorine residual monitor located after contact time for verification of primary disinfection?	No

Comment

1. Primary disinfection is achieved by means of treatment with sodium hydrochloride. There was a chlorine dose verification monitor located at the water treatment plant which was alarmed and inhibited however a residual chlorine monitor at the point of chlorine contact time validation was not in place. Uisce Éireann outlined that works are underway to install a monitor at this location however a timeframe for the completion of such works could not be confirmed.

2. As an interim measure operational staff are taking daily manual samples for residual chlorine at an accessible point located near the point of validation (after the reservoir).

3. Network residual chlorine sample records were reviewed and demonstrated alignment with EPA guidance as per *EPA Water Treatment Manual: Disinfection.*

		Answer
1.2	Is suitable continuous monitoring in place to verify treatment performance?	No

Comment

1. As per 1.1 above a continuous residual chlorine monitor is required at the point of contact time validation.

2. A continuous turbidity monitor on treated water is operational at this water treatment plant however frequent short duration spikes in this trend above 1 NTU were attributed to the testing of a chemical safety shower onsite. The site operator outlined that the feasibility of moving the location of the sample point could be investigated to provide for more stable readings.

		Answer
1.3	Are suitable alarm settings in place to alert operators to deteriorating water quality or the failure of a critical treatment process?	No

Comment

1. A residual chlorine alarm and inhibit was not installed at the point of contact time validation.

2. On inspection of the alarm history on UV Unit No 1 it was noted that alarms for low dose were registered on the HMI however plant operators confirmed that they did not receive such alarms. These alarms were not detailed on the SCADA system.

3. On review of the SCADA system for general alarm activation history there were no details therein.

		Answer
1.4	Is there appropriate oversight of alarm responses?	No

Comment
1. The site operator outlined that there is oversight of alarm responses but records of responses are not maintained to allow for periodic review by management to validate the responses taken. 2. Although there are processes in place to verify that alarm and inhibit settings at the plant are reviewed post contractor maintenance this action is not outlined in a written alarm response procedure.

		Answer
1.5	Is there a documented procedure for responding to specific alarms?	No

2. Site Specific Issues

		Answer
2.1	Are the filters designed and managed as per EPA guidance?	No

Comment

1. The filter media depth was reported at approximately 520mm. This is below the recommended minimum depth as outlined in the *EPA Water Treatment Manual: Filtration.* The site operator reported that works are in progress to increase the depth of the filter media however a timeframe for the completion of works was not available at the time of the audit.

Recommendations

Subject	Roscmuc Audit 2025	Due Date	16/06/2025
Action Text	**Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.** 1. Chlorine: (i) progress the installation of a continuous residual chlorine monitor at the location of chlorine contact time validation, (ii) ensure alarm and inhibits are commissioned on the continuous residual chlorine monitor which align with the guidance outlined in the *EPA Water Treatment Manual: Disinfection*, (iii) continue to undertake manual residual chlorine sampling at a location as close as possible to the point of validation and ensure results are recorded. 2. UV: (i) investigate the presence of UV low dose alarms on UV unit number 1 and submit details of outcome, (ii) confirm that UV alarms are connected to the SCADA system. 3. Consider the feasibility of moving the sample point for the continuous turbidity monitor on the treated water to enable more stable results on this trend. 4. Alarm response oversight: (i) maintain a record on critical alarm and inhibit responses at the water treatment plant and ensure that periodic management oversight of such responses can be demonstrated (ii) cross check with SCADA alarm activation history or conduct periodic tests to ensure alarms are working as appropriate (iii) ensure that documented procedures for responding to specific alarms are developed and implementation for the plant. 5. Filtration: (i) progress works to increase the depth of the filter media to align with the guidance outlined in the *EPA Water Treatment Manual: Filtration* and provide confirmation to the EPA on the completion of this work. **Actions required by Uisce Éireann** 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. Uisce Éireann should submit a report to the EPA on or before 16/06/2025 detailing the actions taken and planned, with timescales, to close out the above recommendations. The EPA advises that the findings and recommendations from this audit report should, where relevant, be addressed at other public water supplies.		