

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	Rathangan
Organisation	Uisce Éireann
Scheme Code	1400PUB1041
County	Kildare
Site Visit Reference No.	SV29531

Report Detail	
Issue Date	24/05/2024
Prepared By	Lisa Noone

Site Visit Detail			
Date Of Inspection	24/04/2024	Announced	Yes
Time In	11:00	Time Out	12:45
EPA Inspector(s)	Lisa Noone		
Additional Visitors			
Company Personnel	Uisce Éireann: Linda Doran Veolia (DBO): Mark Robinson, Keith McEvoy, Charlotte O'Hare		

> Summary of Key Findings

1. The audit found that whilst alarms and inhibits in place at Rathangan Water Treatment Plant (WTP) were satisfactory there were a number of shortcomings in relation to the maintenance and operation of filters namely the cleaning of filters to prevent algal growth, a lack of turbidity monitors for combined/final water to verify that water is adequately prepared for disinfection, and faulty turbidity monitors in place for individual filters.
2. There was a lack of automatic switchover between the chlorine dosing pumps in the event of failure.

> Introduction

Rathangan Public Water Supply (PWS) serves a population of 6,500 people with a production volume of approximately 1,900 m³/day. Raw water is abstracted via six boreholes in the vicinity of the WTP. The DBO plant, operated under contract by Veolia has water treatment including rapid gravity filtration, chlorination and fluoridation, in addition to secondary chlorination at Redhills Reservoir.

The audit of Rathangan WTP was carried out to assess the performance of Uisce Éireann in providing clean and wholesome drinking water, with a focus on the alarms and inhibits in place at the treatment plant and the procedures in place to ensure appropriate oversight of treatment processes

> Supply Zones Areas Inspected

All treatment processes on site and one off site borehole were inspected as part of the audit. The offsite reservoir at Redhills was not inspected during the audit.



1. Management and Control

		Answer
1.1	Have the recommendations from the previous EPA audit been satisfactorily addressed?	No
Comment		
<p>1. There was a significant build-up of algae on the inlet channels and filter walls of the rapid gravity filters which are located inside the treatment plant building. This issue was also observed during previous audits in 2017 and 2020 and could potentially result in taste and odour issues. Uisce Éireann stated in 2021 that the filters are scheduled for cleaning on a quarterly basis, however Veolia operatives stated that filter cleaning was overdue and has not taken place in the last number of months.</p> <p>2. There is no automatic switchover of chlorine dosing pumps in the event of failure. This was raised as a recommendation in an EPA Disinfection Audit carried out in August 2023 and has not been addressed.</p>		



2. Alarms, Inhibits & Oversight Audits 2024

	Answer	
2.1	Is suitable continuous monitoring in place to verify treatment performance?	No
Comment		
<p>1. Individual filter turbidity monitors are not operating correctly and alarms are regularly activated by apparent turbidity spikes. Veolia operatives stated that the turbidity monitor for Filter 1 has inaccurate readings and the Filter 2 monitor is not designed for low range specifications therefore not accurately reflecting the actual filtered water turbidity. Daily grab samples are taken by plant operatives to verify filter performance and results were inspected as part to the audit.</p> <p>2. Backwashes occur on a timed basis only and are not triggered in event of filtered water turbidity exceeding the operational target or headloss in accordance with the requirements of the <i>EPA Water Treatment Manual: Filtration</i>.</p> <p>3. There is no combined filter/final water turbidity monitor to verify that turbidity levels are <1NTU prior to disinfection.</p>		

	Answer	
2.2	Are dial out arrangements suitable to allow a timely response?	No
Comment		
<p>1. Critical alarms are dialled-out to five members of staff. Alarms are responded to on a hierarchical basis, however there is no way of verifying that they have been responded to.</p>		

	Answer	
2.3	Were all findings of the UÉ alarm and inhibit review implemented?	No
Comment		
<p>1. An alarm and inhibit review was carried out in October 2023 however the recommendations have yet to be implemented.</p>		



3. Site Specific Issues

	Answer
3.1 Is the information reported by Uisce Éireann on the EPA EDEN portal correct?	No
Comment	
1. Information reported on the EPA EDEN portal states that there are seven boreholes in operation at the plant which is inaccurate.	

Recommendations

Subject	Rathangan Audit Recommendations	Due Date	27/06/2024
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 switch in the event of the failure of one of the pumps.2. Examine the feasibility of installing a continuous monitor for combined filter/final water turbidity to verify that turbidity is <1NTU prior to disinfection in accordance with the <i>EPA Water Treatment Manual: Filtration</i>.3. Repair or replace Filter 1 and Filter 2 turbidity monitors and ensure they are appropriately maintained.4. Examine the feasibility of installing a continuous headloss monitor on each rapid gravity filter and automatic backwashing linked to a turbidity alarm setpoint in accordance with the <i>EPA Water Treatment Manual: Filtration</i>.5. Ensure that the filters are cleaned on a quarterly basis or when required to prevent the build-up of algae on the inlet channels and filter walls.6. Put in place an appropriate cascade system for responding to alarms generated at the plant which allows for verification that an alarm has been responded to.7. Implement the findings of the Alarm and Inhibit review to protect treatment processes and treated water quality.8. Update EDEN to reflect the source of the Rathangan PWS. <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 the above 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>		