

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	Graiguenamanagh PWS
Organisation	Uisce Éireann
Scheme Code	1500PUB1008
County	Kilkenny
Site Visit Reference No.	SV29642

Report Detail	
Issue Date	19/07/2024
Prepared By	David O'Malley

Site Visit Detail			
Date Of Inspection	17/06/2024	Announced	Yes
Time In	13:00	Time Out	15:00
EPA Inspector(s)	David O'Malley		
Additional Visitors			
Company Personnel	Uisce Éireann: Denis McGrath. Kilkenny County Council (working in partnership with Uisce Éireann): Denis Lawlor, Kevin Hogan, Eugene Halley, Clare Dowling, Shane Aylward, John Cleere and Maurice Rafter.		

> Summary of Key Findings

1. There is no UV standby unit at either Coolroe Water Treatment Plant or Priest Valley Water Treatment Plant to ensure inadequately treated water does not enter the network.
2. The two turbidity monitors after the filtration process are not operational at Priest Valley Water Treatment Plant due to water priming issues when the plant is not operational.
3. Uisce Éireann should ensure that an appropriate cascade system and associated procedures are put in place for responding to alarms generated at the plant allowing for verification that an alarm has been responded to.

> Introduction

The Graiguenamanagh Public Water Supply (PWS) supplies an average of 457 m³/day of water, serving a population of 1,453 (EDEN figures 2023). It is supplied by the Coolroe Water Treatment Plant and the Priest Valley Water Treatment Plant.

Coolroe Water Treatment Plant:

The Coolroe Water Treatment Plant is supplied by a spring from Mount Brandon Hill. Treatment consists of two pressure filters, UV disinfection and chlorination. The Coolroe reservoir is located on site.

Priest Valley Water Treatment Plant:

The Priest Valley Water Treatment Plant is supplied by the Duiske river. Treatment consists of two pressure filters and UV disinfection. The plant operates on low and high level signals from Coolroe reservoir.

> Supply Zones Areas Inspected

The media filters, chlorination dosing system, UV disinfection and pumps at Priest Valley and Coolroe WTPs were inspected.



1. Management and Control

	Answer	
1.1	Is there a documented alarm response procedure?	No
Comment		
Coolroe Water Treatment Plant: 1. There is no documented site specific procedure detailing how alarms are responded to at the WTP.		
Priest Valley Water Treatment Plant: 1. There is no documented site specific procedure detailing how alarms are responded to at the WTP.		

	Answer	
1.2	Are suitable plant shutdowns/inhibits in place to prevent the entry of inadequately treated water entering the distribution network?	No
Comment		
Coolroe Water Treatment Plant: 1. There is no shutdown based on high turbidity readings in the final water at the WTP.		
Priest Valley Water Treatment Plant: 1. There is no shutdown based on high turbidity readings for the two turbidity meters after the filtration process at the WTP.		



2. Protozoal Barriers Audits 2024

	Answer	
2.1	Is there a documented site specific incident response and incident escalation process?	No
Comment		
Coolroe Water Treatment Plant: 1. There is no documented site-specific incident response detailing contacts for escalation and relevant trigger levels at the WTP. Priest Valley Water Treatment Plant: 1. There is no documented site-specific incident response detailing contacts for escalation and relevant trigger levels at the WTP.		

	Answer	
2.2	Has UÉ identified the protozoal compliance log treatment requirement for the water treatment plant?	No
Comment		
Coolroe Water Treatment Plant: 1. Uisce Éireann confirmed that a Source and Sanitary Survey has not been completed and that the protozoal compliance log treatment requirement has not yet been determined for this WTP. Priest Valley Water Treatment Plant: 1. Uisce Éireann confirmed that a Source and Sanitary Survey has not been completed and that the protozoal compliance log treatment requirement has not yet been determined for this WTP.		

	Answer	
2.3	Does continuous turbidity monitoring indicate that the filters are operating effectively?	No
Comment		
Priest Valley Water Treatment Plant: 1. Turbidity monitors after the pressure filters were not operational on the day of the inspection. This is due to a water priming issue in turbidity monitors when the plant stops and starts.		



3. Site Specific Issues

	Answer
3.1 Is there appropriate bunding for chlorine drum containment?	No
Comment	
Coolroe Water Treatment Plant: 1. Transfer of chlorine from drum (approx. 20l) to the day tank is not being carried out in a bunded area.	

Recommendations

Subject	Audit Recommendations	Due Date	16/08/2024
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> <p>Coolroe Water Treatment Plant:</p> <ol style="list-style-type: none"> 1. Install a standby UV unit at the WTP. 2. Complete (i) a Source and Sanitary Survey to confirm the log treatment requirement for the supply; (ii) provide a timeframe to address any treatment log deficit that exists. 3. Ensure that appropriate alarms/shutdowns are in place to protect the regulatory 1 NTU limit on final water turbidity specified in the <i>EPA Water Treatment Manual: Filtration</i>. 4. Develop and display the Uisce Éireann Incident Communications Response Guidance Form with site specific information including contacts for escalation and relevant trigger levels protecting critical processes at the water treatment plant. Ensure that all staff are trained on the response procedures. 5. 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 and ensure documented procedures are put in place for responding to and escalating all alarms generated at the water treatment plant. The procedure should clearly document the corrective actions and set out delegation of responsibilities. 6. Ensure chlorine is transferred from drums to day tank within a bunded area. Chemicals should be stored in bunded areas capable of containing at least 110% of the volume of chemicals stored therein. <p>Priest Valley Water Treatment Plant:</p> <ol style="list-style-type: none"> 1. Turbidity: (i) Develop a system to ensure the turbidity monitors post pressure filters stay primed with water when the plant is not operational; (ii) Ensure that appropriate alarms/shutdowns are in place to protect the regulatory 1 NTU limit on final water turbidity specified in the <i>EPA Water Treatment Manual: Filtration</i>; (iii) Ensure all turbidity monitor information at package plant is visible on the SCADA system. 2. Install a standby UV unit at the WTP. 3. Complete (i) a Source and Sanitary Survey to confirm the log treatment requirement for the supply; (ii) provide a timeframe to address any treatment log deficit that exists. 4. Develop and display the Uisce Éireann Incident Communications Response Guidance Form with site specific information including contacts for escalation and relevant trigger levels protecting critical processes at the water treatment plant. Ensure that all staff are trained on the response procedures. 5. 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 and ensure documented procedures are put in place for responding to and escalating all alarms generated at the water treatment plant. The procedure should clearly document the corrective actions and set out delegation of responsibilities. <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. Uisce Éireann should submit a report to the EPA on or before 16/08/2024 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.</p>		