

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	Thurles Regional Water Supply
Organisation	Uisce Éireann
Scheme Code	3700PUB1042
County	Tipperary
Site Visit Reference No.	SV27732

Report Detail	
Issue Date	12/06/2023
Prepared By	Criona Doyle

Site Visit Detail			
Date Of Inspection	02/05/2023	Announced	Yes
Time In	10:30	Time Out	12:55
EPA Inspector(s)	Criona Doyle		
Additional Visitors			
Company Personnel	Uisce Eireann: Patrick Duggan, Kieran Fay. Glan Agua (acting under DBO contract to Uisce Eireann): David Flanagan, Joe O'Meara, Richard Quirke.		

> Summary of Key Findings

1. Sampling for Trihalomethanes formation potential has been undertaken at the Thurles Regional Water Treatment Plant and in the network. The results are awaited and will be assessed by Uisce Éireann to identify any required modifications to the treatment process to address elevated trihalomethanes in the final water.
2. The plant was operating satisfactorily on the day of the audit.

> Introduction

The Thurles Regional Public Water Supply (PWS) supplies on average 4,500m³/d and serves a population of 11,394. The Thurles Regional Water Treatment Plant (WTP) is operated by Glan Agua on behalf of Uisce Éireann under a Design, Build, Operate (DBO) Contract.

Raw water is obtained from the River Clodiagh. Treatment consists of coagulation, flocculation, clarification, rapid gravity filtration, UV disinfection, pH correction, chlorination, fluoridation and sludge treatment.

The audit was undertaken to assess the operation and management of the WTP in response to the exceedances of the Trihalomethanes (THM) parametric value of 100 µg/l on 30/05/22 (120 µg/l), 16/11/22 (104 µg/l) and 04/04/23 (101 µg/l).

> Supply Zones Areas Inspected

The treatment processes at the Thurles Regional WTP were examined. The raw water abstraction point and reservoirs were not inspected.



1. Coagulation Flocculation and Clarification (CFC) Stage

	Answer
1.1	Were the CFC tanks, channels and weirs observed to be clean, level and well maintained during the audit? Comment A build up of sludge was observed on the channels in the settlement tanks on the day of the audit. Glan Agua stated a partial clean of one settlement tank is undertaken each week. A deep clean of each settlement tank, which requires taking the tank out of service, is undertaken on a 2 to 3 month frequency.



2. Disinfection

	Answer
2.1 Are duty and standby chlorine pumps/ UV units in operation?	No
Comment	
<p>Duty and standby chlorine dosing pumps with automatic switchover are provided for primary disinfection.</p> <p>A single duty UV unit provides the <i>Cryptosporidium</i> barrier with automatic shutdown in the event the UV unit drops outside of its validated range. There is no standby UV unit.</p>	



3. Management and Control

		Answer
3.1	Is there a documented alarm response procedure?	No
Comment		
<p>The plant is operated by Glan Agua under a Design, Build, Operate (DBO) Contract. Glan Agua outlined that the Operation and Management Manual includes the Glan Agua documented alarm response procedure. Incidents at the WTP are notified by Glan Agua to the Uisce Éireann DBO lead who contacts Uisce Éireann Operations and Uisce Éireann Compliance Team as required. A roster is in place to provide alarm response cover 24/7 with a designated person on call at all times.</p> <p>The Uisce Éireann Incident Response Procedure was not displayed at the water treatment plant.</p>		



4. Site Specific Issues

		Answer
4.1	Has orthophosphate dosing been commissioned at the WTP ?	No
Comment		
<p>The equipment for orthophosphate dosing is in place at the WTP since the plant went into production in November 2020. The orthophosphate dosing stage has not been commissioned to date. Uisce Éireann indicated that the roll out of orthophosphate dosing is being progressed under a national plan in 2023 but the planned date for Thurles Regional PWS could not be confirmed at the audit.</p>		

		Answer
4.2	Have the investigations into the cause of the THMs parametric failures been completed ?	No
Comment		
<p>The investigations into the cause of the THM parametric failures have not been completed. Uisce Éireann confirmed at the audit that a programme of THM formation potential monitoring is being undertaken at the WTP and in the network. Samples had been taken two weeks prior to the audit and the results were awaited. THM formation potential monitoring results from 13/01/23 for raw water (200ug/l) and filtered water (126 ug/l) were available at the audit.</p> <p>THMs monitoring results for the final water from 2021, 2022 and 2023 were provided at the audit. All exceedances were previously notified to the EPA.</p>		

		Answer
4.3	Is filter backwashing regularly observed by operational staff ?	No
Comment		
<p>Filter backwashing is not regularly observed by operational staff. Automatic filter backwashing is triggered at the turbidity set point of 0.3 NTU or on a timed basis (26 hours runtime). Filter backwashing is also triggered manually if required.</p>		

Recommendations

Subject	Thurles Regional PWs - Audit	Due Date	12/07/2023
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">1. (i) Provide details of the outcome of the investigation into THM formation potential testing at the WTP and in the network; (ii) provide details of any planned modifications of the treatment process to improve the efficiency of THM precursor removal and to ensure compliance with the THM parametric value; (iii) continue monthly monitoring of THMs at the network extremities until remedial works have been completed.2. Ensure that there are duty and standby UV units with automatic changeover or plant shutdown in the event of failure of one of the UV units.3. Confirm the date for commissioning of the orthophosphate dosing at Thurles Regional WTP.4. Display the Uisce Éireann Incident Communications Response Guidance Form with site specific information including contacts for escalation and relevant trigger levels for protecting critical processes at the Thurles Regional WTP.5. Ensure the filter backwashing is visually observed on a regular basis.6. Ensure the channels on settlement tanks are regularly cleaned to prevent build up of material. <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 12/07/23 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>		