

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.	SV28117

Report Detail	
Issue Date	14/09/2023
Prepared By	Michelle Roche

Site Visit Detail			
Date Of Inspection	15/08/2023	Announced	Yes
Time In	10:00	Time Out	11:50
EPA Inspector(s)	Michelle Roche Cormac MacGearailt		
Additional Visitors	Patrick Chan		
Company Personnel	Uisce Éireann: Michael Byrne, Samantha Keane, Denis McGrath Glanua (operating under DBO contract to Uisce Éireann): David Flanagan		

> Summary of Key Findings

1. A Boil Water Notice was placed on the Thurles Regional public water supply affecting a population of 11,394 on 14/07/2023. The Boil Water Notice was issued due to an inability to maintain adequate chlorine residuals (above 0.1mg/l) in the distribution network.
2. The Boil Water Notice was lifted on 21/08/2023 after chlorine dosing at the water treatment plant was increased and it was verified that adequate chlorine residuals were subsequently being maintained in the distribution network.
3. The focus of the audit was to investigate the reasons for placing a Boil Water Notice on the supply. However drinking water sample results from the distribution network and a detailed timeline of events were not available to EPA inspectors at the audit to facilitate this.

> 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 Glanua 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 purpose of the audit was to investigate the reasons for the Boil Water Notice that had been placed on the supply.

> Supply Zones Areas Inspected

The audit consisted of interviews with Uisce Éireann and Glanua staff and a review of drinking water quality trends at the water treatment plant. Drinking water sample results from the distribution network were not available to view during the audit.



1. Incident Management

1.1

	Answer
Was the incident suitably alerted to the plant operators, escalated and managed in order to maintain water quality and protect public health?	No
Comment	
<p>1. An inadequate amount of information was available at the audit to determine if the incident was suitably alerted to plant operators, escalated and managed.</p> <p>2. The stated intention of the audit, as communicated to Uisce Éireann in the audit notification email on 09/08/2023, was to investigate the low chlorine residuals in the Thurles Regional PWS distribution network. Despite this, the following information was unavailable at the audit:</p> <ul style="list-style-type: none"> • The date the first low chlorine residuals were detected in the distribution network. • The immediate actions taken in response to the detection of low chlorine residuals in the network. • Any chlorine residual sample results from the distribution network for the months of July and August. <p>3. Chlorine residual results from the distribution network were submitted by Uisce Éireann after the audit and illustrated that chlorine residuals below the minimum required concentration of 0.1 mg/l were detected at 6 out of 11 sample locations sampled on 14/07/2023. A Boil Water Notice was subsequently placed on the supply on 14/07/2023 and remained in place until 21/08/2023.</p> <p>4. Uisce Éireann could not provide details of actions taken following the detection of low chlorine residuals in the network by Tipperary County Council staff and therefore EPA inspectors could not determine if the incident was suitably escalated at the time.</p> <p>5. It was confirmed at the audit that continuous online chlorine residual trends at the outlet of the reservoir decreased on 12/07/2023 and 13/07/2023, below the Low Lo alarm set-point of 0.8 mg/l, however they did not drop below the plant shutdown set-point of 0.5 mg/l. Glanua responded to the Low Lo alarm and increased the sodium hypochlorite dose at the WTP. Chlorine residual trends were reading above 0.8 mg/l from the morning of 14/07/2023 and did not drop below 0.8 mg/l again up to and including 11/08/2023 as evidenced by the trends viewed at the audit.</p> <p>6. At the time of the audit Uisce Éireann Process Optimisation staff were working with Glanua to optimise the Trihalomethane (THM) removal processes at the WTP. It was suspected that an increase in organic matter in the final water leaving the WTP, had resulted in an increase in THM formation and an increase in chlorine demand in the 5km rising main to the reservoir. This meant that chlorine residuals leaving the reservoir were lower than usual and unable to be maintained to the extremities of the distribution network.</p>	

Recommendations

Subject	Thurles Regional Boil Water Notice - Audit Recommendations	Due Date	14/10/2023
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. Ensure that any water quality incidents, including those that occur in the distribution network are suitably escalated, managed and resolved in a timely manner and in line with the Uisce Éireann Incident Communications Response Guidance Form.2. Ensure that information requested by the EPA prior to an audit and/or requested for review on the day of an audit is provided for and made accessible to inspectors promptly <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 14/10/2023 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>		