

# 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	
<b>Name of Installation</b>	Tipperary Town Supply
<b>Organisation</b>	Uisce Éireann
<b>Scheme Code</b>	2900PUB0123
<b>County</b>	Tipperary
<b>Site Visit Reference No.</b>	SV28147

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

Site Visit Detail			
<b>Date Of Inspection</b>	15/08/2023	<b>Announced</b>	Yes
<b>Time In</b>	12:25	<b>Time Out</b>	13:20
<b>EPA Inspector(s)</b>	Michelle Roche Cormac MacGearailt		
<b>Additional Visitors</b>			
<b>Company Personnel</b>	Uisce Éireann: Colin Cunningham, Samantha Keane, John M Fogarty.  Tipeerary County Council (working in partnership with Uise Éireann): Bernard O' Brien, Bríd O' Hehir		

## > Summary of Key Findings

1. A sodium hypochlorite dosing pump (pump 2) failed on 25/07/2023 resulting in a low chlorine residual leaving the Tipperary Town Water Treatment Plant (WTP) between 8.00am and 11.00am and 14.00pm and 16.30pm.
2. The UV system providing secondary disinfection was operational at all times during the pump failure so water leaving the water treatment plant was adequately disinfected, however it was not clear whether adequate chlorine residuals above 0.1mg/l were maintained in the distribution network at all times.
3. Uisce Éireann could not confirm at the audit that the first pump failure alarm dialed out appropriately to the caretaker or that an inadequate contact time alarm dialed out to Tipperary County Council operational staff. Uisce Éireann should investigate these alarms and ensure all alarms are dialing out appropriately.

## > Introduction

The Tipperary Town Public Water Supply (PWS) produces approximately 2,360m<sup>3</sup>/d of water serving a population of 4,955 (EDEN figures). The audit focused on the disinfection failure at the water treatment plant (WTP) on 25/07/2023.

## > Supply Zones Areas Inspected

The audit consisted of interviews with Uisce Éireann and Tipperary County Council staff and a review of continuous online chlorine residual trends.



## 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?	Yes
<b>Comment</b>	
<p>1. Sodium hypochlorite disinfectant is dosed via a duty/standby dosing pump arrangement with automatic switchover of dosing pumps every 3 hours. On 25/07/2023 dosing pump 2 failed between 8:00am and 11:00am and 14:00pm and 16:30pm resulting in no sodium hypochlorite being dosed during those times. Sodium hypochlorite was dosed between 11:00am and 14:00pm when dosing pump 1 was in operation.</p> <p>2. Alarms were generated at 8:15am and 14:15pm and email notifications were received at the Tipperary County Council office alerting staff to the pump failure. The caretaker was unable to recall if he received an alarm notification to his phone related to the morning failure but confirmed that he did receive a notification in the afternoon.</p> <p>3. The caretaker attended the WTP at approximately 11:00am on 25/07/2023 having been contacted by staff at the County Council office. At that time he observed that the chlorine residual was beginning to increase again (as pump 1 had begun operating) so he left the site.</p> <p>4. The caretaker attended the site again in response to the alarm notification at approximately 3:00pm. On this occasion he observed that pump 2 was not working. He switched over the dose to operate constantly with pump 1 until pump 2 was repaired on 27/07/2023.</p> <p>5. During the pump failure the secondary disinfection UV system was operational at all times so water leaving the WTP was adequately disinfected, however it was not clear whether adequate chlorine residuals above 0.1mg/l were maintained in the distribution network at all times. Chlorine residual sampling took place in the distribution network on 26/07/2023 and residuals were found to be satisfactory.</p>	



## 2. Disinfection

2.1

Are monitors and alarms operational via dial out and being responded to with a suitable cascade system in place?

**Answer**

No

**Comment**

1. It could not be confirmed at the audit that all alarms dialed out as expected during the dosing failure incident on 25/07/2023. The caretaker could not recall if he had received an alarm when dosing pump 2 failed between 8:00am and 11:00am.

2. Chlorine contact time below the alarm set-point of 15mg.min/l was recorded on the HMI between 16:30pm and 17:45pm on 25/07/2023. It could not be confirmed whether an alarm was generated and dialed out to Tipperary County Council operational staff as a result of the inadequate contact time readings.

## Recommendations

<b>Subject</b>	Tipperary Town - Audit Recommendations	<b>Due Date</b>	14/10/2023
<b>Action Text</b>	<p><b>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendation without delay.</b></p> <p>1. Ensure that an appropriate system of dial out alarms is provided and functioning to allow a timely response in the event of disinfection system failure or inadequate disinfection.</p> <p><b>Actions required by Uisce Éireann</b></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>		