

# 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>	Horse & Jockey PWS
<b>Organisation</b>	Uisce Éireann
<b>Scheme Code</b>	2800PUB1011
<b>County</b>	Tipperary
<b>Site Visit Reference No.</b>	SV27601

Report Detail	
<b>Issue Date</b>	03/04/2023
<b>Prepared By</b>	Criona Doyle

Site Visit Detail			
<b>Date Of Inspection</b>	15/03/2023	<b>Announced</b>	Yes
<b>Time In</b>	13:30	<b>Time Out</b>	14:45
<b>EPA Inspector(s)</b>	Criona Doyle		
<b>Additional Visitors</b>			
<b>Company Personnel</b>	Uisce Éireann: Pat Duggan; Colin Cunningham  Tipperary County Council (working in partnership with Uisce Eireann): Jerry Fogarty; David Browne; Aidan Delaney.		

## > Summary of Key Findings

1. Upgrade works have been completed at the Horse and Jockey Water Treatment in response to the previous Boil Water Notice (in place from 13/08/22 to 22/08/22) which was imposed as a result of elevated turbidity. The upgrade works include the addition of two cartridge filters, a new storage tank, a turbidity data logger, changes to the pumping regime, manual run to waste and the installation of a generator.
2. Uisce Éireann advised that the Horse and Jockey Water Treatment Plant is to be rationalised and linked to the Thurles Regional Public Water Supply. The expected completion date for rationalisation of the supply could not be confirmed at the audit.

## > Introduction

The Horse and Jockey Public Water Supply (PWS) serves a population of 648 and produces approximately 173m<sup>3</sup>/d (EDEN figures). Raw water is sourced from a borehole adjacent to the treatment plant building. Treatment includes filtration (cartridge filters), UV disinfection (primary) and chlorination.

The audit was undertaken to assess the performance of Uisce Éireann in providing clean and wholesome drinking water.

## > Supply Zones Areas Inspected

The audit consisted of an inspection of the treatment plant and the borehole source.



## 1. Source Protection

	Answer	
1.1	Is the abstraction source(s) adequately protected against contamination?	No
<b>Comment</b>		
<p>The landuse in the area is agricultural. At the audit, Tipperary County Council could not confirm when the landowners within the zone of contribution were written to in relation to the presence of a drinking water supply in proximity to their lands and their obligations under the European Union (Good Agricultural Practice for the Protection of Waters Regulations 2022 (S.I. No. 113 of 2022)).</p> <p>The borehole was located in a below ground locked chamber and the pipework at the wellhead was sealed. The base of the chamber was not concreted but was dry and there was no evidence of ingress of surface water. The Caretaker undertakes daily checks and records any activities in the buffer zones.</p>		



## 2. Disinfection

2.1

Is the disinfection system verified using monitors and alarms, with trended data recorded and accessible?

**Answer**

No

**Comment**

Both the UV disinfection system and chlorine disinfection system are verified with trended data and alarms. A copy of the trends were provided prior to the audit and indicated no issues with the UV or chlorination disinfection systems.

The live readings for turbidity, UVI, UV dose, flow and residual chlorine levels can be viewed on site on the disinfection mimic. There is no facility for Uisce Eireann or Tipperary County Council operational staff to view the continuous disinfection trends at the site. SCADA trends cannot be accessed remotely by Tipperary County Council. The host company, IPL, have to sign on remotely to access the trend data to provide trends for Uisce Eireann and Tipperary County Council. There is no system in place to ensure regular checks of disinfection trends are being undertaken by operational staff. As part of the daily checks by operational staff the Caretaker records a single daily residual chlorine level post chlorination and plots this daily level on a chart to monitor changes.

2.2

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

**Answer**

No

**Comment**

Level 1 alarms indicating plant shutdown (flow, UV dose, turbidity and chlorine) are sent to operational staff (caretaker and supervisor). Level 1 shutdown alarms are sent to both the caretaker and supervisor at the same time.

Level 2 warning alarms (flow, UV dose, turbidity and chlorine) are not sent to the operational staff but will appear on screen on the disinfection mimic on the HMI.

2.3

Are duty and standby chlorine pumps/ UV units in operation?

**Answer**

No

**Comment**

UV provides the primary disinfection. A duty UV disinfection unit is provided. There is no standby UV unit.

Chlorination is used to provide secondary disinfection. Duty and standby chlorine dosing pumps are provided.

2.4

Is there a suitable monitoring frequency for residual chlorine in the network with records available?

**Answer**

No

**Comment**

Monitoring of the residual chlorine levels is undertaken once per week at three locations with two of the monitoring locations at the extremity of the network. The records indicated satisfactory levels > 0.1 mg/l.



### 3. Management and Control

		Answer
3.1	Has the protozoal compliance log treatment requirement been identified for the water treatment plant?	No
<b>Comment</b>		
The protozoal log treatment requirement has not been identified for the WTP. A duty UV disinfection provides primary disinfection and is validated to provide a 3 log reduction.		



## 4. Site Specific Issues

	Answer
4.1 Has all information requested on the open compliance plan been provided ?	No
<b>Comment</b>	
A copy of the verification monitoring data used for the lifting of the BWN on 22/08/2022 has not been provided to date.	

## Recommendations

Subject	Horse and Jockey Audit	Due Date	03/05/2023
<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 recommendations without delay.</b></p> <ol style="list-style-type: none"><li>1. Provide a completion date for the rationalisation of the Horse and Jockey WTP.</li><li>2. Liaise with Tipperary County Council to ensure that local landowners have been written to in relation to their obligations under the European Union (Good Agricultural Practice for Protection of Waters) Regulations 2022, as amended.</li><li>3. Ensure that (i) Level 2 warning alarms are sent to the operational staff; (ii) operational staff have access to continuous disinfection trends (UV and chlorine) at the WTP and (iii) that the disinfection trends are regularly checked by operational and supervisory staff.</li><li>4. Confirm (i) the protozoal log treatment requirement for the Horse and Jockey WTP, (ii) provide details on how any protozoal log treatment deficit, if identified, will be addressed.</li><li>5. Ensure that the extremities of the network are included as residual chlorine monitoring locations, several times per week, to ensure a minimum residual chlorine of 0.1 mg/l is maintained.</li><li>6. Submit a copy of the verification monitoring data used for the lifting of the BWN on 22/08/2022.</li></ol> <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 03/05/23 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>		