

Site Visit Report

Under the European Union (Drinking Water) Regulations 2014 as amended, the Environmental Protection Agency is the supervisory authority in relation to Irish Water and its role in the provision of public water supplies. This Audit was carried out to assess the performance of Irish Water in providing clean and wholesome water to the visited public supply.

The audit process is a sample on a given date of the facility's operation. Where a finding against a particular issue has been reported this should not be construed to mean that this issue is fully addressed.

Water Supply Zone	
Name of Installation	Dunhill Ballinageeragh
Organisation	Irish Water
Scheme Code	3100PUB1141
County	Waterford
Site Visit Reference No.	SV25768

Report Detail	
Issue Date	22/08/2022
Prepared By	Regina Campbell

Site Visit Detail			
Date Of Inspection	03/08/2022	Announced	No
Time In	12:20	Time Out	12:45
EPA Inspector(s)	Regina Campbell		
Additional Visitors			
Company Personnel	Irish Water: Patrick Duggan Waterford City & County Council (acting under service level agreement to Irish Water): Maura Phelan, David Hourigan		

> Summary of Key Findings

1. The UV and chlorination systems at the Dunhill Ballinageeragh Water Treatment Plant were found to be operating satisfactorily.
2. The borehole should be capped to ensure that it is protected in accordance with EPA Advice Note No. 14: Borehole Construction and Wellhead Protection.

> Introduction

The Dunhill Ballinageeragh Public Water Supply (PWS) serves a population of 44 and produces 8 m³/day (EDEN figures). The source comprises of a borehole located beside the treatment planthouse.

The audit was undertaken to assess Irish Water's performance in producing clean and wholesome water.

> Supply Zones Areas Inspected

The borehole, UV and chlorination systems were inspected.



1. Source Protection

	Answer
1.1	Is the abstraction source(s) adequately protected against contamination? Comment The borehole is located beside the planthouse which are located in a small housing estate. The borehole is located in a padlocked covered chamber but is not fenced off. The borehole was not capped and the raw water sample line wastewater was being directed back into the borehole which is not best practice. Turbidity of the water was 0.092 NTU at the audit and trends submitted showed low and stable turbidity levels. The pH was 6.8 which is within the pH range of parametric values.



2. Disinfection

		Answer
2.1	Is the disinfection system verified using monitors and alarms, with trended data recorded and accessible?	Yes
Comment		
<p>Primary disinfection is provided by UV with chlorination providing a residual in the network. The plant was upgraded under the Irish Water Disinfection Programme in 2018.</p> <p>There are satisfactory chlorine and UV alarms and shutdowns setpoints in operation and trends are viewable at the plant. There is also a turbidity alarm at 0.8 NTU and shutdown at 1 NTU.</p> <p>Trends submitted showed stable chlorine and UV trends. Chlorine residual at the audit was 0.7 mg/l.</p>		

		Answer
2.2	Are monitors and alarms operational via dial out and being responded to with a suitable cascade system in place?	Yes
Comment		
<p>The caretaker and relief caretaker receive alarms and training has been provided on responding to incidents.</p>		

		Answer
2.3	Are duty and standby chlorine pumps/ UV units in operation?	Yes
Comment		
<p><u>UV</u></p> <p>There are duty and standby Wedeco Spektron 15 UV units with automatic changeover in operation.</p> <p><u>Chlorination</u></p> <p>There are duty/standby chlorine pumps with automatic changeover and dosing of 5% sodium hypochlorite is flow proportional.</p>		

		Answer
2.4	Is the UV system suitably validated?	Yes
Comment		

According to the plate affixed to each unit the units are certified to the European standard and provide a minimum dose of 400 J/m² at a maximum flow rate of 3.5 m³/hr and minimum UVT of 80%.

At the audit, the UV unit in operation was operating at UVI of 113.2 W/m², at a flow of 0.4 m³/hr and a UVT of 99% which demonstrates that the UV unit was operating within the flow and UVT values as shown on the plate.

The UVT shutdown setpoint was set at 70% and the plate refers to a minimum UVT of 80%. There was no validation certificate available on the day of the audit. Subsequent to the audit, Irish Water submitted the validation certificate and confirmed that the UVT shutdown setpoint had been raised to 80% to correspond to the information on the plate.



3. Management and Control

		Answer
3.1	Has the protozoal compliance log treatment requirement been identified for the water treatment plant?	No
Comment		
Irish Water's calculated desktop groundwater assessment model is indicating a 3 Log requirement (when rounded up) for the Dunhill Ballinageeragh source. This needs to be confirmed.		

Recommendations

Subject	Dunhill Ballinageeragh Audit Recommendations	Due Date	22/09/2022
Action Text	<p>Irish Water is responsible for ensuring a safe and secure supply of drinking water. To address these issues Irish Water should implement the following recommendations without delay.</p> <p>Recommendations</p> <ol style="list-style-type: none">1. Irish Water should a) ensure that all borehole linings and seals are maintained in accordance with EPA Advice Note No. 14: Borehole Construction and Wellhead Protection and b) fence off the supply borehole.2. Irish Water should redirect the waste from the sample line away from the borehole wellhead.3. Irish Water should a) confirm the protozoal removal requirement for the plant b) and address any log treatment deficit at the plant. <p>Follow-Up Actions required by Irish Water</p> <p>During the audit, Irish Water representatives were advised of the audit findings and that action must be taken as a priority by Irish Water to address the issues raised.</p> <p>This report has been reviewed and approved by Dr. Michelle Minihan, Senior Inspector, Drinking Water Team Leader.</p> <p>Irish Water should submit a report to the Agency on or before 22/09/22 detailing how it has dealt with the issues of concern identified during this audit.</p> <p>The report should include details on the action taken and planned to address the various recommendations, including time frame for commencement and completion of any planned work.</p> <p>The EPA also advises that the findings and recommendations from this audit report should, where relevant, be addressed at all other treatment plants operated and managed by Irish Water.</p> <p>Please quote Compliance Plan DW20220097 in any future correspondence in relation to this Report.</p>		