

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	Newmarket
Organisation	Irish Water
Scheme Code	0500PUB1601
County	Cork
Site Visit Reference No.	SV26158

Report Detail	
Issue Date	05/12/2022
Prepared By	Criona Doyle

Site Visit Detail			
Date Of Inspection	16/11/2022	Announced	Yes
Time In	13:00	Time Out	14:00
EPA Inspector(s)	Criona Doyle		
Additional Visitors			
Company Personnel	Irish Water: Pat Britton; Tommy Roche; Phil Elvins; Ciaran Connolly. Cork County Council (acting under service level agreement to Irish Water): Jason O'Donoghue; Willie O'Sullivan; Pauline McAree; Frances Whoriskey.		

> Summary of Key Findings

(1) The chlorination and fluoridation treatment stages at the Newmarket Water Treatment Plant (WTP) were found to be operating satisfactorily.

(2) There is no treatment barrier in place at the Newmarket Water Treatment Plant to prevent *Cryptosporidium* entering the public water supply.

> Introduction

The Newmarket Public Water Supply serves a population of 9,500 and provides 8,300m³/d of treated water. Treatment at the plant includes disinfection (chlorination) and fluoridation.

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

> Supply Zones Areas Inspected

The auditor examined the treatment processes (chlorination and fluoridation) and the raw water abstraction points (4 no. spring sources and 1 no. borehole). The treated water reservoirs served by the Newmarket Water Treatment Plant were not inspected.



1. Source Protection

	Answer
1.1	Is the abstraction source(s) adequately protected against contamination? Yes
Comment	
<p>Raw water is obtained from 4 no. spring sources on a year round basis and 1 no. borehole which is used to augment the supply in the summer. The 4 no. springs and 1 no. borehole are located within a secure fenced compound. All of the springs are located in below ground collection chambers accessed via a sealed and locked cover. The borehole is completed above ground level and the wellhead is sealed and surrounded by a concrete plinth. No construction details were available for the borehole which is reported to have been installed approximately 15 years ago.</p> <p>Landuse in the vicinity of the spring includes forestry and agricultural land. At the audit Cork County Council confirmed that the landowners had last been written to in 2008 in relation to the presence of a drinking water supply in proximity to their lands and their obligations under the <i>European Union (Good Agricultural Practice for the Protection of Waters) Regulations 2022</i>, as amended. Cork County Council outlined that discussions have taken place with Coillte in relation to planned felling in the adjacent forestry and a communications plan is in place whereby Coillte will notify Cork County Council in advance of any works taking place.</p> <p>Turbidity monitors and level sensors have been installed on each spring and the borehole source. A UVT monitor is also installed on the combined raw water. There is a turbidity alarm (0.9 NTU) on the raw water. There is no automatic plant shutdown linked to the turbidity alarm due to concerns over the impact of an automatic plant shutdown on the trunk main fed from the WTP. The pipe is reported to be in very poor condition with a long history of breaks.</p>	



2. Disinfection

		Answer
2.1	Is the disinfection system verified using monitors and alarms, with trended data recorded and accessible?	Yes
Comment		
<p>The chlorine trend was viewed at the WTP and a stable residual chlorine trend was observed.</p> <p>There are satisfactory chlorine warning alarms in operation at the WTP (low 0.50mg/l at CL001, CL002 & CL003 and high CL001 1.3 mg/l, CL002 & CL003 1.0 mg/l). There is no automatic plant shutdown linked to the high or low chlorine alarm setpoints due to concerns over the impact of an automatic plant shutdown on the trunk main fed from the WTP. The pipe is reported to be in very poor condition with a long history of breaks. Options for the installation of automatic shutdown at the Newmarket Reservoir and on the line to Meelin are currently being examined.</p>		

		Answer
2.2	Is the chlorine dosed appropriately?	Yes
Comment		
<p>Chlorine dosing is flow proportional and is linked to the residual chlorine monitors. The chlorination system was upgraded under the Irish Water Disinfection Programme in Q1 2022.</p>		



3. Reservoirs and Distribution Networks

		Answer
3.1	Are reservoirs adequately inspected and maintained?	No
Comment		
<p>The dates when the reservoirs served by the Newmarket PWS were last cleaned could not be confirmed at the audit. Subsequent to the audit (21/11/22) Irish Water confirmed that the Boherbue Tower reservoir was cleaned in 2019. No details have been provided to date on the other 15 no. reservoirs listed as being served by the WTP.</p>		



4. Management and Control

		Answer
4.1	Has the protozoal compliance log treatment requirement been identified for the water treatment plant?	No
Comment		
<p>At present the Newmarket WTP is classed as having a protozoal log treatment requirement of Log 4 (springs Log 4 and borehole Log 3). A sanitary survey has not been completed to finalise the score.</p> <p>Monitoring for <i>Cryptosporidium</i> is being undertaken once per month, since the start of 2021, in accordance with the <i>Irish Water Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Supplies</i>. Prior to 2021 monitoring was taking place 4 times per annum. There have been no detections of <i>Cryptosporidium</i> to date.</p>		

Recommendations

Subject	Newmarket PWS - Audit 16 11 22	Due Date	05/01/2023
Action Text	<p>Recommendations</p> <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> <ol style="list-style-type: none">1. Irish Water should (i) confirm the protozoal log treatment requirement for the sources; (ii) provide details on how the protozoal log deficit will be addressed and (iii) ensure <i>Cryptosporidium</i> monitoring is undertaken as per the <i>Irish Water Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Supplies</i> until the protozoal log treatment deficit is addressed.2. Irish Water should liaise with Cork County Council to ensure that local landowners have been written to in relation to their obligations under the <i>European Union (Good Agricultural Practice for the Protection of Waters) Regulations 2022</i>, as amended.3. Irish Water should ensure that all reservoirs supplied by the Newmarket Water Treatment Plant are included in the Irish Water Reservoir Inspection and Maintenance Schedule.4. Irish Water should provide an update on progress with the works to install shutdown linked to the chlorine and turbidity alarm setpoints. <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 Regina Campbell, Drinking Water Team Leader.</p> <p>Irish Water should submit a report to the Agency on or before 05/01/23 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 DW20210218 in any future correspondence in relation to this Report.</p>		