

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	Fermoy
Organisation	Irish Water
Scheme Code	0500PUB1207
County	Cork
Site Visit Reference No.	SV26148

Report Detail	
Issue Date	02/12/2022
Prepared By	Orla Harrington

Site Visit Detail			
Date Of Inspection	11/11/2022	Announced	Yes
Time In	10:00	Time Out	12:40
EPA Inspector(s)	Orla Harrington		
Additional Visitors			
Company Personnel	Irish Water: Tommy Roche, Sharon O'Dwyer Cork County Council (acting under service level agreement to Irish Water): Frances Whorisky, John Sisk, Pauline McAree.		

> Summary of Key Findings

1. The audit found that the Fermoy Water Treatment Plant is well managed and was producing satisfactory water on the day of the audit.
2. There is no treatment barrier in place at the Fermoy Water Treatment Plant to prevent *Cryptosporidium* entering the supply. Irish Water should install a barrier against *Cryptosporidium* to ensure the water supply is adequately treated at all times.
3. The supply will be considered for addition to the EPA's Remedial Action List in 2023 under the category inadequate treatment for *Cryptosporidium*.

> Introduction

The Fermoy Public Water Supply (PWS) serves a population of 8,500 and supplies on average 3,800 m³/day of water to Fermoy town and the surrounding area. The source of the supply is mainly from an infiltration gallery, located on the south bank of the River Blackwater at Deerpark, upstream of Fermoy Bridge. Cork County Council stated that during the drier weather a proportion of the supply is supplemented by a nearby groundwater borehole. Raw water flows by gravity to a water sump before being pumped to the water treatment plant at Coolrue, which is approximately 1.2km from the raw water sources. The high lift pumps in the raw water sump are controlled by the reservoir level in Coolrue. Treatment includes disinfection using chlorination and fluoridation.

The audit was undertaken to assess the performance of Irish Water in providing clean and wholesome drinking water following the detection of *Cryptosporidium* in the Fermoy Public Water Supply on 23/11/2021. Follow up monitoring has been clear to date.

> Supply Zones Areas Inspected

The auditor examined the treatment processes at Fermoy WTP. The treated water reservoirs were also visited.



1. Source Protection

	Answer
1.1	Is the abstraction source(s) adequately protected against contamination? Comment The landuse in the area is mainly agriculture. At the audit, Cork 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 <i>European Union (Good Agricultural Practice for the Protection of Waters) Regulations 2022 (S.I. No. 113 of 2022)</i> . There is a turbidity alarm (0.9 NTU) on the raw water. There is automatic plant shutdown linked to the regulatory limit of 1 NTU in final water leaving Fermoy WTP.



2. Disinfection

2.1

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

Answer

Yes

Comment

1. Chlorination is used for primary disinfection at the plant and is dosed prior to the onsite reservoir where chlorine contact time is achieved.

2. High and low chlorine alarms and shutdowns are in place on the monitor CL001 which validates dosing and on dual validation monitors CL002/CL003 which validate chlorine contact time. The chlorine trend was viewed at the plant and a stable residual chlorine trend was observed.

3. Chlorine contact time calculations submitted by Irish Water show that the reservoir achieves a total effective contact time of 29.81 mg.min/l, at a residual chlorine concentration of 0.5 mg/l and this is greater than the target contact time of 23.40 mg.min/l.



3. Management and Control

		Answer
3.1	Has the protozoal compliance log treatment requirement been identified for the water treatment plant?	No
Comment		
<p>1. <i>Cryptosporidium</i> was detected in a sample of the final water taken at the treatment plant on 23/11/2021 (0.001/10L). There have been no previous detections notified to the EPA.</p> <p>2. Irish Water indicated that the protozoal log treatment requirement for the supply has not yet been finalised. At present the sources are classed as requiring a protozoal log credit requirement of log 3.5 removal. A sanitary survey has not been completed to date to finalise the score.</p> <p>3. A monthly monitoring programme has been put in place in accordance with the <i>Irish Water Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Supplies</i> since the initial detection and there have been no detections of <i>Cryptosporidium</i> to date.</p>		

		Answer
3.2	Are suitable alarm settings in place to alert operators to deteriorating water quality and/or the failure of a critical treatment process?	No
Comment		
<p>The ammonia monitor on the raw water sump needs to be fixed, commissioned and linked to an appropriate alarm in order to alert staff of any changes to raw water quality.</p>		

Recommendations

Subject	Fermoy PWS Audit Recommendations	Due Date	02/01/2023
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 plant and ii) install a suitable barrier against <i>Cryptosporidium</i> to ensure the water supply is adequately treated. 2. Irish Water should undertake monitoring in accordance with the <i>Irish Water Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Water Supplies</i>. 3. Irish Water should install and commission an ammonia monitor with alarm on the raw water to alert staff of any changes in raw water quality. 4. Irish Water should liaise with Cork County Council and confirm relevant landowners have been written to in relation to setback distances in accordance with the <i>European Union (Good Agricultural Practice for the Protection of Waters) Regulations 2022 (S.I No. 113 of 2022)</i> for the sources of the supply. <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 02/01/2023 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 the Action Reference Number DW20210211 in any future correspondence in relation to this Report.</p>		