Drinking Water Audit Report

County:	Wexford	**Date of Audit:**	10/08/16
Plant(s) visited:	Glynn Water Treatment Plant Scheme Code: 3300PUB1507	**Date of issue of Audit Report:**	
		File Reference:	DW2016/139
		Auditors:	Ms Michelle Roche Ms Pauline Gillard
Audit Criteria:	• The *European Union (Drinking Water) Regulations 2014 (S.I. 122 of 2014).* • *The EPA Handbook on the Implementation of the Regulations for Water Services Authorities for Public Water Supplies (ISBN: 978-1-84095-349-7)* • The recommendations specified in the EPA *Drinking Water Report*. • EPA Drinking Water Advice Notes Nos. 1 to 15.		

MAIN FINDINGS

i. **The first properties served by the Glynn public water supply do not receive adequately disinfected water, due to insufficient chlorine contact time. Irish Water to address this without delay.**

1. INTRODUCTION

Under the *European Union (Drinking Water) Regulations 2014* 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 drinking water.

Glynn is located approximately 13km outside Wexford town. The Glynn public water supply serves approximately 200 people in the area and the plant produces approximately 32m^3/day. There are 2 boreholes, one in use and the other historic, not in use.

Photographs taken by Pauline Gillard during the audit are attached to this report and are referred to in the text where relevant.

The opening meeting commenced at 2.20p.m. at Glynn treatment plant. The scope and purpose of the audit were outlined at the opening meeting. The audit process consisted of interviews with staff, review of records and observations made during an inspection of the treatment plant. The audit observations and recommendations are listed in Section 2 and 4 of this report.

The following were in attendance during the audit.

Representing Irish Water: Ms Catherine Rice, Compliance Analyst, Irish Water Mr Pat Duggan, Compliance Monitor Liaison Analyst, Irish Water Mr Liam Brett, Water Operations Engineer, Irish Water Mr Paul Delahunty, Executive Engineer, Wexford County Council. Mr Mark Collins, Area Engineer, Wexford County Council. Mr Jason Hynes, Part-time Caretaker, Wexford County Council. Representing the Environmental Protection Agency: Ms Michelle Roche, Inspector. Ms Pauline Gillard, Inspector.

2. AUDIT OBSERVATIONS

The audit process is a random sample on a particular day of a facility's operation. Where an observation or recommendation against a particular issue has not been reported, this should not be construed to mean that this issue is fully addressed.

1.	**Source Protection** a. There are two boreholes at the plant, one which is in use and the other disused. The borehole not in use has a secure and covered plinth but is not capped. b. The main borehole is located in a borehole chamber, however there is no cap on the top of the borehole and the chamber is not currently locked. Wexford County Council have ordered a lock for the borehole chamber. c. The main borehole is cased to about 1-1.5m (visual inspection) however there is no data available on the construction of the boreholes. d. Irish Water should ensure that the well head borehole currently in use is capped with a suitable material and sealed. See EPA Advice Note No. 14 on Borehole Construction and Wellhead Protection. e. The zone of contribution around the boreholes has some agricultural land and some houses with septic tanks within 30m of the borehole. Agricultural activity in the catchment consists of predominantly grassland. The caretaker did not report any land spreading activities in the zone of contribution. f. The *Cryptosporidium* risk assessment carried out by Wexford County Council in Glynn water supply scheme scored 56 (moderate).
2.	**Disinfection** a. The raw water is treated with 10-11% sodium hypochlorite with a fixed dose. b. Duty and standby chlorine dosing pumps are installed and there is no automatic switchover in the event of pump failure. The caretaker checks the online Chlorine monitor daily against a handheld monitor. The alarm is triggered with a low alarm of 0.2 mg/l and a high alarm of 0.5mg/l. c. Residuals are measured at the tap in the pump house every 2-3 weeks and at the end of the network.

	d. Adequate effective contact time of 15mg.min/l is not achieved before the first consumer. e. During the audit IW stated that there has been a delay in awarding the contract for the National Disinfection Programme in Co. Wexford. No date was available during the audit as to when the contract will be awarded.
8.	**Chemical storage and bunds** a. All chemicals were adequately bunded and locked at the treatment plant.
9.	**Hygiene and Housekeeping** a. The plant was clean and secure.

3. AUDITORS COMMENTS

Irish Water should immediately review the issue of insufficient effective contact time to the first customers on the Glynn public water supply. Where commencement of the Irish Water Disinfection Programme is delayed in County Wexford, effective contact time at the Glynn public water supply should be addressed ahead of the Disinfection Programme. Irish Water should also undertake a full review of the disinfection system in place at the Glynn public water supply including proposals for providing automatic changeover of dosing pumps and flow proportional dosing.

4. RECOMMENDATIONS

Source Protection

1. Irish Water should ensure that the borehole currently in use is suitably capped and sealed. See EPA Advice Note No. 14 on Borehole Construction and Wellhead Protection.

2. Irish Water should review the status of the second borehole at the Glynn treatment plant site and decommission it in accordance with best practice guidelines (see recommendation 1) if it is redundant. If it is to be maintained as a contingency borehole, the borehole should be capped and sealed.

Disinfection

3. Irish Water should review the contact time for chlorine disinfection to ensure that the effective contact time achieved is 15mg.min/l and that the first connections are receiving appropriately disinfected drinking water. Irish Water should submit a calculation of the effective contact time to the Agency.

4. Irish Water should install a duty and standby chlorine dosing pump with automatic switch over in the event of the failure of one of the pumps.

5. Irish Water should replace fixed dose chlorine pumps with flow proportional pumps or pumps capable of dosing based on the residual chlorine monitor.

FOLLOW-UP ACTIONS REQUIRED BY IRISH WATER

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. This report has been reviewed and approved by Ms Ruth Barrington, Drinking Water Inspector.

Irish Water should submit a report to the Agency within one month of the date of this audit report detailing how it has dealt with the issues of concern identified during this audit. The report should include details on the action taken and planned to address the various recommendations, including timeframe for commencement and completion of any planned work.

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.

Please quote the File Reference Number in any future correspondence in relation to this Report.

Report prepared by:  **Date:** 22/08/16

Pauline Gillard

Inspector

Picture No1: Main Bore Hole at Glynn Treatment plant not capped.