



Drinking Water Audit Report

County:	Wexford	Date of Audit:	12/04/18
Plant(s) visited:	Gorey Regional (Creagh) water treatment plant (WTP) Scheme Code: 3300PUB1512	Date of issue of Audit Report:	04/05/18
		File Reference:	DW2018/65
		Auditors:	Ms Pauline Gillard Ms Michelle Roche
Audit Criteria:	<ul style="list-style-type: none"> • The <i>European Union (Drinking Water) Regulations 2014, as amended</i>. • The <i>EPA Handbook on the Implementation of the Regulations for Water Services Authorities for Public Water Supplies (ISBN: 978-1-84095-349-7)</i> • The recommendations specified in the <i>EPA Drinking Water Report</i>. • EPA Drinking Water Advice Notes No's 1 to 15. 		

MAIN FINDINGS

- i. **An *Enterococci* exceedance was detected in the treated water at Gorey Regional (Creagh) water treatment plant (WTP) on 05/04/18. This audit was carried out to determine whether the *Enterococci* detections were caused by a failure of the treatment processes at Gorey water treatment plant.**
- ii. **The *Enterococci* investigation identified that the sampling point at the WTP was located at the inlet to the clear water tank and adequate contact time for chlorine disinfection would not have been achieved at this point. This is likely to have contributed to the *Enterococci* exceedance.**

1. INTRODUCTION

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 in response to the notification by Irish Water dated 9th April 2018 of the failure to meet the *Enterococci* parametric value in the Gorey Regional public water supply in Co. Wexford.

The Gorey public water supply is sourced from two surface water intakes at Kilmichael and Pallis from the river Bann and eight boreholes. Both of the surface water abstractions are mixed coming in to the treatment plant but the intake at Pallis can be closed off if necessary. Gorey WTP is currently operating at 2113 m³/day for 24 hours/day and the supply serves a population of 6649 people in the Gorey area. Treatment includes Dissolved Air Flotation, slow sand filtration, pH correction with lime, disinfection using sodium hypochlorite and fluoridation. For the purposes of this audit only disinfection was examined.

The opening meeting commenced at 2.30 pm at Gorey Regional public water supply. 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 audits observations and recommendations are listed in Section 2 and 4 of this report. The following were in attendance during the audit.

Representing Irish Water:

Patrick Duggan – Compliance Specialist

Representing Wexford County Council

Paul Delahunty – Executive Engineer

Fionnuala Callery – Senior Executive Engineer

Terry Moore – Senior General Services Supervisor

Tom Quirke – Area Engineer

Paul Kehoe– Caretaker

Representing the Environmental Protection Agency:

Pauline Gillard – Inspector

Michelle Roche - 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.	<p>Source Protection</p> <ul style="list-style-type: none"> a. Land use in the immediate vicinity around the Gorey Regional water treatment plant (WTP) is agricultural. b. Gorey WTP perimeter is fenced and the site is secure. c. Wexford County Council confirmed that landowners were written to, on the week of 9/04/18 by the Water Services Section, to inform them of their obligations in relation to the requirements of the <i>European Union (Good Agricultural Practice for the Protection of Waters) Regulations 2014 (SI No.31 of 2014)</i>. d. Both intakes are alarmed and monitored for Turbidity.
2.	<p>Disinfection</p> <ul style="list-style-type: none"> a. Disinfection at Gorey WTP consists of chlorination using sodium hypochlorite. b. The duty and standby chlorine dosing pumps have automatic switchover. c. The chlorine dosing is flow proportional and the dosing point is at the inlet to the reservoir. d. There is a chlorine residual monitor and alarm on the outlet to the reservoir. The low low chlorine alarm set point is 0.3 mg/l and high high level alarm is 1.3 mg/l. The chlorine residual at the outlet to the reservoir was 0.71mg/l at the time of the audit. e. There is no automatic shutdown of the plant when the chlorine alarm is triggered. f. When the chlorine alarm is triggered there is a documented cascade system in place for responding to the alarm. g. Adequate effective chlorine contact time of 15mg/min/l is achieved before the first consumer.

3.	<p>Exceedances of the Parametric Values</p> <ul style="list-style-type: none"> a. A failure to meet the <i>Enterococci</i> parametric value on 5th April 2018 was notified to the EPA on 9th April 2018. The sample was taken at the WTP. Follow up samples at several different locations in the supply zone, and at the WTP were taken from 9th to 13th April. All results were compliant with the microbiological standards and contained adequate levels of free residual chlorine. b. The SCADA records for chlorine residual levels at the treatment plant were reviewed from the 1st April through to the date of the exceedance on 5th April 2018 and post exceedance. Chlorine residuals were adequate. c. The raw water and final water turbidity at the plant were examined on the date of the exceedance and three days prior to the sample being taken. All were in expected ranges prior to the exceedance. d. The <i>Enterococci</i> investigation identified that the sampling point at the WTP was located at the inlet to the reservoir and adequate contact time for chlorine disinfection would not have been achieved at this point. This may have contributed to the <i>Enterococci</i> exceedance. Irish Water have now installed a new sampling point after the reservoir, which has adequate contact time.
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3. AUDITORS COMMENTS

The audit was carried out to determine whether the *Enterococci* exceedance on 5th April 2018 was caused by a failure of the treatment processes at Gorey water treatment plant. The incident investigation identified that the sampling point at the WTP was located at the inlet to the clear water tank and adequate contact time for chlorine disinfection would not have been achieved at this point. This is likely to have contributed to the *Enterococci* exceedance. A new sampling point has now been installed after the reservoir, to ensure adequate contact time has been achieved.

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 Aoife Loughnane, Drinking Water Team Leader.

Report prepared by:



Date:

Inspector

04/05/18