



Drinking Water Audit Report

County:	Waterford	Date of Audit:	15/05/2017
Plant(s) visited:	Rathgormack PWS (3100PUB1083)	Date of issue of Audit Report:	02/06/2017
		File Reference:	DW2017/51
		Auditors:	Mr Niall Dunne
Audit Criteria:	<ul style="list-style-type: none"> • The <i>European Union (Drinking Water) Regulations 2014 (S.I. 122 of 2014)</i>. • <i>The 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. • The recommendations in any previous audit reports. 		

MAIN FINDINGS

- i. **Upgrade works to the disinfection system are currently ongoing at the Rathgormack water treatment plant. Irish Water proposes to have these completed by July 2017. Irish Water should progress these works to ensure the proposed completion date is met and should confirm to the EPA when the works are complete.**

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.

The Rathgormack public water supply (PWS) serves a population of approximately 130 people. The scheme demand for the supply is 35 m³/day. The borehole source is located adjacent to the treatment building. Treatment consists of a single UV unit and chlorine dosing. It is proposed that this supply will be upgraded by July 2017 with the following PWSs to be connected by Q2 2018; Monadiha, Feddans, Clonea - Power, Clonea - O' Sullivan and Whitestown PWS.

The opening meeting commenced at 11.40 am at the Rathgormack Water 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 audits observations and recommendations are listed in Section 2 and 4 of this report. The following were in attendance during the audit.

Representing the Local Authority and Irish Water:

Deirdre O'Loughlin, Compliance Specialist, Irish Water.

Siobhan Clifford, Compliance Analyst, Irish Water.

Alan Kirwan, Area Engineer, Waterford County Council.

John Fitzgerald, Waterford County Council.

Brien Power, Water Caretaker, Waterford County Council.

Representing the EPA:

Niall Dunne, Inspector, EPA.

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> <ol style="list-style-type: none"> a. The scheme is fed from a borehole located adjacent to the treatment plant. b. According to Waterford County Council (WCC) the borehole is greater than 35m deep and is fully lined. c. It was not possible to view the borehole headworks at the time of the audit as chamber keys were not available. d. WCC stated that they were not aware of the <i>Cryptosporidium</i> risk score but that it would be forwarded in due course. e. Cattle grazing is the main land use surrounding the borehole. WCC confirmed that farmers within the vicinity of the borehole had been written to regarding their obligations under the 2014 Good Agricultural Practice (GAP) Regulations. It was not confirmed when the farmers were written to.
2.	<p>Disinfection</p> <ol style="list-style-type: none"> a. Disinfection consists of UV followed by chlorination. b. There are duty/standby chlorine dosing pumps in place, these are set to duty/assist with auto switch over if one pump fails. One pump is continually set as the duty pump i.e. duty dosing is not alternated between the pumps. c. The dial out chlorine residual alarm is set to 0.3 mg/l. The reading on the chlorine residual monitor at the time of the audit was 0.77 mg/l. WCC stated that residual chlorine levels are tested daily. It was observed from the caretaker's records that levels at the end of the network are generally in the region of 0.6 mg/l. d. There is a single UV unit in place and according to Irish Water (IW) it is validated to NSF/ANSI, no validation certificate was available at the time of the audit. According to WCC there is a dial out alarm in place and is set to alarm at a dose of 50 mJ/cm². The observed reading on the UV monitor was 59.4 mJ/cm². e. Upgrade works to the disinfection system are ongoing and are proposed to be complete by July 2017. The upgrade works include the installation of duty/standby UV units with auto shut down, validated to a max flow rate of 6.6 m³/h, a minimum UVI of 52 W/m² and a UVT of 80%. The chlorine dosing system is also to be upgraded and a chlorine residual contact tank installed. f. The new UV units and the new contact tank were installed but were not operational at the time of the audit.
3.	<p>Monitoring and Sampling Programme for treated water</p> <ol style="list-style-type: none"> a. According to IW one audit and three check samples are taken annually. b. No monitoring results were available at the time of the audit.
4.	<p>Management</p> <ol style="list-style-type: none"> a. Japanese knotweed was observed within the compound of the treatment plant.

3. AUDITORS COMMENTS

It is proposed to complete the upgrade works to the Rathgormack treatment plant by July 2017 and to connect five additional supplies to it by Q2 2018. Works were on going at the time of the audit. Irish Water should endeavour to complete these by July 2017.

Irish Water should also confirm to the EPA when the works are complete and should submit the data requested below to demonstrate that the UV units are operating within their validation ranges.

4. RECOMMENDATIONS

General

1. Irish Water should submit quarterly updates to the EPA on the progress of the upgrade works and confirm when the works are complete.
2. Irish Water should ensure that duty dosing is regularly switched between the chlorine dosing pumps.
3. Irish Water should, following completion of the works, submit the updated *Cryptosporidium* risk assessment for this supply.
4. Irish Water should, once the works have been completed, submit the following validation data to demonstrate that the UV units have stayed within their validation ranges;
 - a. Two months graphed flow data;
 - b. Two months graphed UVI/UVT data;
 - c. Two months graphed chlorine data from the treatment plant;
 - d. Two months graphed turbidity monitoring results;
 - e. Details of the alarm and shut down limits for both the UV and chlorine dosing systems.
5. Irish Water should seek specialist advice with regard to the eradication of Japanese Knotweed within the vicinity of the source so as not to impact on consumer health and not to cause any deterioration in water quality.

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 Regina Campbell, Drinking Water Team Leader.

Irish Water is recommended to put such measures in place as are necessary to implement the recommendations listed in this report. The actions by Irish Water to address the recommendations taken will be verified by the Agency during any future audits.

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 DW2017/51 in any future correspondence in relation to this Report.

Report prepared by:



Date:

02/06/2017

Inspector