



Drinking Water Audit Report

County:	Waterford	Date of Audit:	22/1/2016
Plant(s) visited:	Dromore Upper	Date of issue of Audit Report:	2/2/2016
		File Reference:	DW2016/11
		Auditors:	Ms Yvonne Doris
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>. • The recommendations in any previous audit reports. 		

MAIN FINDINGS

- i. **The UV reactor at the Dromore Upper treatment plant is not a validated system. There is no verification data to demonstrate that it is providing adequate disinfection to consumers. Irish Water should install a verifiable disinfection system 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 in response to the notification by Irish Water dated 12/1/2016 of the failure of the UV disinfection system in the Dromore Upper supply.

The Dromore Upper public water supply in County Waterford serves three houses. The source is a borehole, about 25m deep. An unvalidated UV disinfection system was installed prior to 2012. No other treatment is in place. The supply is part of a county-wide plan to rationalise supplies and it is intended to have customers of the Dromore Upper supply served by the Aglish-Culrua public supply (140m³/day; 240 consumers). A new pumping station and 1.5km of pipework is required to connect to the Aglish-Culrua supply. It is intended to begin these works in May 2016 and complete them before the end of 2016.

The scope and purpose of the audit were outlined at the opening meeting. The audit consisted of inspection of the disinfection system and did not encompass the source/catchment or network of the supply. 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:

Name – Job Title

Catherine Rice, Compliance Specialist, Irish Water

Declan Halpin, Technician, Waterford County Council

Tom Rogers, Engineer, Waterford County Council

James Murray, Engineer, Waterford County Council

Representing the Environmental Protection Agency:

Name – Job Title

Yvonne Doris, 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.	UV Disinfection <ul style="list-style-type: none">a. On 11/1/16 the UVI sensor and card output of the Sita (Model 412 LCD+) UV reactor failed and a boil notice was imposed on the 12 consumers of the supply. This was notified to the EPA on 12/1/16. A temporary Trojan unit (without a UVT monitor) was installed in the interim and the Sita UV unit was reinstalled on 21/1/16.b. The UV reactor in place at the time of the audit is an un-validated system. There is no UVT monitor in place and therefore the effectiveness of the disinfection system cannot be verified.
2.	Monitoring and Sampling Programme for treated water <ul style="list-style-type: none">a. Since 2013 all microbiological results were compliant.
3.	Management and Control <ul style="list-style-type: none">a. No complaints have been received from consumers.

3. AUDITORS COMMENTS

The disinfection system in place at Dromore Upper is inadequate and does not meet the minimum disinfection standards set out in the *EPA Advice Note No. 3 E. coli in Drinking Water*. Irish Water should install a verifiable disinfection system without delay.

4. RECOMMENDATIONS

Disinfection

1. Irish Water should ensure that the UV disinfection system is validated in accordance with an appropriate internationally accepted validation system.
2. Irish Water should ensure that the UV disinfection system operates within its validated range at all times.
3. Irish Water should install a continuous UVI or UVT monitor at the point of disinfection and this monitor should be alarmed and linked to a recording device to ensure that any deviation of the quality of water outside the validated range for the UV treatment system or a failure of the UV disinfection system is immediately detected.

Management and Control

4. Irish Water should consider expediting the connection of the consumers on the Dromore Upper supply to the Aghlish-Culrua public supply.

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 Mr Darragh Page, Senior 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:

Yvonne Doris

Date:

2nd February 2016

Yvonne Doris

Inspector