



Drinking Water Audit Report

County:	Limerick	Date of Audit:	28/03/2019
Plant(s) visited:	Croom Public Water Supply (1900PUB1023)	Date of issue of Audit Report:	12/04/2019
		File Reference:	DW2016/49
		Auditors:	Cliona Ní Eidhin
Audit Criteria:	<ul style="list-style-type: none"> • The <i>European Union (Drinking Water) Regulations 2014 (S.I. 122 of 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. • The recommendations in any previous audit reports. 		

MAIN FINDINGS

- i. The Croom Public Water Supply has been on the EPA's Remedial Action List (RAL) since 2016 due to the absence of a treatment barrier for *Cryptosporidium*. The audit found that a treatment barrier had not yet been installed. Irish Water estimate that a solution, involving the boring and commissioning of new G1 borehole sources to replace the existing sources, will be in place by June 2019. These works should be progressed without further delay.
- ii. The audit found that a number of recommendations made during the 2018 EPA audit had not been addressed by Irish Water pending progress with the overall upgrade plan for the supply.
- iii. Weekly monitoring for *Cryptosporidium* has yielded clear results since 2016 and should continue until the permanent solution has been commissioned for this supply.

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 to assess the suitability of the Croom Public Water Supply (PWS) for removal from the EPA's Remedial Action List (RAL). The audit purpose was also to verify that recommendations made in the EPA Audit Report issued on 15/02/2018 had been acted upon.

The Croom Public Water Supply produces an average of 725 m³/day and serves a population of 1,764 people in Croom village and its surrounding rural area. The supply has two raw water sources; the 'Bypass' borehole (supplies 500 - 600 m³/day) and a spring known as the Skagh well (supplies 150-200 m³/day).

The opening meeting commenced at 14:00pm at the Croom "Bypass borehole" Drinking 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 Irish Water:

Deirdre O'Loughlin - Drinking Water Compliance Specialist

Malcolm Doak – Asset Programmes Hydrogeologist

Representing Limerick County Council:

Tony Dillon - Caretaker

Diarmuid O'Dea – Engineer

Peter McEvoy – Assistant Scientist

Representing the Environmental Protection Agency:

Cliona Ní Eidhin – 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>Safety of supply</p> <ul style="list-style-type: none"> a. Irish Water informed the auditor that final water at the Bypass borehole portion of the supply is sampled weekly for <i>Cryptosporidium</i>. No <i>Cryptosporidium</i> oocysts have been detected since the initial detection in 2016. b. The Skagh Spring source is not sampled separately for <i>Cryptosporidium</i> as UV disinfection is in place. c. Clear <i>Cryptosporidium</i> sampling results for the period June 2018 to February 2019 were furnished as part of the audit.
2.	<p>Security of supply</p> <p><u>Overall source upgrading plan</u></p> <ul style="list-style-type: none"> a. Irish Water's overall upgrade plan for the Croom PWS initially set out to decommission the existing Bypass borehole and the Skagh spring sources, replacing them with a new borehole at the Bypass site. b. Since the 2018 audit, a new trial borehole has been drilled at the Bypass site. It was reported to the auditor that it was bored during the summer months of 2018 in accordance with Irish Water's G1 technical specifications and meets the construction standards of a production well. c. Irish Water advised that the completion and commissioning of this borehole was suspended due to the drought conditions that prevailed in Summer 2018 and due to observed impacts on the turbidity of water from the existing Bypass borehole which remains in use. The emergence of this turbidity issue led Irish Water to revise the upgrade plan for the Croom supply to include drilling of a further trial borehole at the Skagh Spring site. This further borehole was deemed necessary to supplement the new Bypass source and meet demand. d. On the day of the audit, work to drill the trial borehole at the Skagh Spring site had not yet commenced. Irish Water informed the auditor that drilling was scheduled to take place in early April 2019. e. Irish Water concluded that it is hoped to have the new permanent sources at the Bypass site and at the Skagh site commissioned by June 2019. <p><u>Improvements to existing sources</u></p> <ul style="list-style-type: none"> a. It was noted that the wellhead of the existing Bypass borehole had a stainless steel cap fitted but that it was not fully sealed.

	<p>b. The Skagh spring was not inspected during the audit. It was reported by Irish Water that improvement works recommended in the 2018 EPA audit report to address integrity issues at the Skagh spring chamber had not been progressed. Irish Water explained that the expected decommissioning of the Skagh spring had been delayed as the source was still required to supplement the Bypass source.</p> <p>c. It was found that the installation of UV disinfection at the Bypass borehole had not been progressed due to Irish Water's intention to replace this borehole (as part of the overall improvement plan) with the new G1 borehole. If successfully commissioned, the G1 borehole would negate the need for UV treatment at this location.</p>
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3. AUDITORS COMMENTS

Revisions and delays to the overall source upgrading works on the Croom PWS have led to a lack of progress on improvements to the integrity of the existing sources in addition to slippage in the delivery of a permanent solution for this supply.

The installation of a *Cryptosporidium* barrier or the commissioning of alternative sources of raw water not requiring a barrier should be progressed without further delay in order to allow removal of the supply from the Remedial Action List.

The reported weekly sampling for *Cryptosporidium* has not detected any oocysts of the protozoan since 2016. Sampling should continue at this frequency until a barrier is in place at this supply to verify the safety of water in the Croom PWS for consumption.

4. RECOMMENDATIONS

1. Irish Water should confirm that weekly sampling for *Cryptosporidium* will be continued until a treatment barrier has been put in place or until the new G1 sources, verified to be free of the protozoan, have been commissioned.
2. Irish Water should complete actions to seal the wellhead at the Bypass borehole and the Skagh spring chamber to prevent ingress of insects, small animals or pollutants.
3. Irish Water should progress works to achieve a permanent solution to the lack of a *Cryptosporidium* barrier at the Croom Public Water supply without further delay. A confirmed work programme with expected completion dates should be furnished to the EPA in response to this audit report.

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 should submit a report to the Agency within one month of the issue 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 DW2016/49 in any future correspondence in relation to this Report.

Report prepared by:

CNE

Date:

12/04/2019

Inspector