

	<h1 style="margin: 0;">Drinking Water Audit Report</h1>
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<b>County:</b>	Leitrim	<b>Date of Audit:</b>	16 <sup>th</sup> May 2014
<b>Plant(s) visited:</b>	Kiltyclogher PWS abstraction and treatment plant  1700PUB4500	<b>Date of issue of Audit Report:</b>	17 <sup>th</sup> June 2014
		<b>File Reference:</b>	DW2014/243
		<b>Auditors:</b>	Ms Ruth Barrington Mr David O'Connor
<b>Audit Criteria:</b>	<ul style="list-style-type: none"> <li>• <i>The European Union (Drinking Water) Regulations 2014 (S.I. 122 of 2014).</i></li> <li>• <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></li> <li>• <i>The recommendations specified in the EPA Report on <i>The Provision and Quality of Drinking Water in Ireland.</i></i></li> </ul>		

## MAIN FINDINGS

- i. **The Kiltyclogher public water supply abstraction is from spring/surface water system which is collected in a tank at the chlorine dosing building. There is no *Cryptosporidium* barrier.**
- ii. **A precautionary Boil Water Notice placed on the supply during 2013 was not notified to the EPA as required in the Regulations.**

## 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.

Where the text of the audit report refers to the Water Service Authority this refers to Irish Water in accordance with Section 7 of the Water Services (No. 2) Act 2013.

The Kiltyclogher PWS supplies water to a population of approximately 330. The source water is taken from a series of springs and surface water channels in a rural mountainous area. The treatment consists of disinfection only, using hypochlorite, and there is no barrier to *Cryptosporidium* entering supply.

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

The opening meeting commenced at 15.50 p.m. at Kiltyclogher 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 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: (\* indicates that person was also present for the closing meeting)

Mr Justin Doran – Wastewater Engineer, Irish Water\*

Ms Maeve Coultry – Executive Technician, Leitrim County Council\*

Ms Collette Connolly – Environmental Technician, Leitrim County Council\*

Ms Lisa Cronin – Environmental Technician, Leitrim County Council\*

Representing the Environmental Protection Agency:

Ms Ruth Barrington – Inspector\*

Mr David O'Connor – 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.*

<b>1.</b>	<p><b>Source Protection</b></p> <ul style="list-style-type: none"> <li>a. The abstraction for the Kiltyclogher PWS is taken from a tank beside the chlorine dosing building. Water enters the tank from a combination of springs and surface water channels as shown in the attached photographs 062.jpg and 063.jpg.</li> <li>b. The abstraction area is located within a fenced area (photograph 063.jpg) and the ownership of the surrounding lands adjacent and uphill of the abstraction was not known.</li> <li>c. No <i>Cryptosporidium</i> risk assessment has been done on the source and there has not been any recent catchment work that staff were aware of. <i>Cryptosporidium</i> was not detected in samples taken in the last year.</li> <li>d. The GAP Regulations buffer zones have not been put in place and landowners have not been formally notified of the requirements.</li> </ul>
<b>2.</b>	<p><b>Filtration</b></p> <ul style="list-style-type: none"> <li>a. The intake tank (refer to photograph 062.jpg) was according to staff originally set up as a sand/gravel filter but has not been maintained as such. The design media depth etc. was not known at the time of the audit.</li> </ul>
<b>3.</b>	<p><b>Chlorination and Disinfection</b></p> <ul style="list-style-type: none"> <li>a. The abstracted water is disinfected using chlorination (hypochlorite).</li> <li>b. There is duty and standby chlorination with automatic switchover and alarmed chlorine residual monitoring.</li> <li>c. The chlorine contact time has not been formally calculated.</li> </ul>
<b>4.</b>	<p><b>Monitoring and Sampling Programme for treated water</b></p> <ul style="list-style-type: none"> <li>a. There was a precautionary boil water notice placed on the supply during 2013 due to high levels of colour, according to staff. There were no associated microbiological detections (including <i>Cryptosporidium</i>) in follow up monitoring.</li> <li>b. The boil water notice was not notified to the EPA at the time it was imposed.</li> </ul>

<b>5.</b>	<p><b>Management and Control</b></p> <p>a. The calibrations due on residual chlorine and flow monitors at the plant were out of date at the time of the audit (refer to photograph 068.jpg).</p>
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### 3. AUDITOR'S COMMENTS

Treatment applied to the Kiltyclogher public water supply consists of disinfection only, using chlorination. The abstraction includes a surface water component and there is no barrier to *Cryptosporidium* entering the supply.

A precautionary Boil Water Notice placed on the supply in 2013 was mentioned by staff during the audit. This had not been notified to the EPA as required in the Regulations and the EPA was unaware of it until the day of the audit.

### 4. RECOMMENDATIONS

#### Source Protection

1. The Water Services Authority should implement the requirements of the *European Union (Good Agricultural Practice for the Protection of Waters) Regulations 2014 (SI No.31 of 2014)* to ensure, unless an alternative setback distance has been set as per Article 17 that:
  - i. Organic fertiliser or soiled water is not applied to land within 100 m of the abstraction point; and
  - ii. Farmyard manure held in a field prior to landspreading is not placed within 250 m of the abstraction point.
2. The Water Services Authority should carry out regular monitoring on the raw water source and should include monitoring for microbiological parameters, colour and turbidity as an indicator of trends in assessing water quality and to determine the degree of treatment and controls required in the supply. Should microbiological monitoring indicate contamination, the Water Services Authority should prepare a programme of monitoring for *Cryptosporidium* in the raw water.

#### Filtration

3. The Water Services Authority should follow the guidance on filter specifications in the EPA publication "*Water Treatment Manual on Filtration*", if it is intended to bring the intake tank into use as a filter.

#### Disinfection

4. The Water Service Authority should provide a barrier to *Cryptosporidium* entering the public water supply.
5. The Water Services Authority should review the contact time for chlorine disinfection to ensure that the correct dose and time (0.5 mg/l for at least 30 mins) is being achieved as recommended by the World Health Organisation and that the first connections are receiving appropriately disinfected drinking water. The Water Services Authority should submit a calculation of the contact time to the Agency.

#### Management and Control

6. The Water Services Authority should ensure that any relevant notifications are made to the EPA in a timely manner having regard to Section 6 of the "*EPA Handbook on the Implementation of the Regulations for Water Services Authorities for Public Water Supplies*".
7. The Water Services Authority should ensure that all monitoring and dosing equipment is maintained and calibrated in accordance with the manufacturer's/supplier's instructions.

## **FOLLOW-UP ACTIONS REQUIRED BY IRISH WATER**

During the audit the Water Services Authority representatives were advised of the audit findings and that action must be taken as a priority by the Water Services Authority to address the issues raised. This report has been reviewed and approved by Mr Darragh Page, Drinking Water Team Leader.

The Water Services Authority 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:

17<sup>th</sup> June 2014

Ruth Barrington

Inspector



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