



Drinking Water Audit Report

County:	Tipperary	Date of Audit:	11/3/20115
Plant(s) visited:	Templetney 2900PUB0152	Date of issue of Audit Report:	26/03/2015
		File Reference:	DW2009/376
		Auditors:	Ms Yvonne Doris Ms Cliona Ní Eidhin Ms Michelle Roche
Audit Criteria:	<ul style="list-style-type: none"> • The <i>European Union (Drinking Water) Regulations 2014 (S.I. 122 of 2014)</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>. • The recommendations in any previous audit reports. 		

MAIN FINDINGS

- i. **The first seven properties served by the Templetney public water supply do not receive adequately disinfected water, due to inadequate chlorine contact time. Irish Water should progress the installation of a contact tank at the treatment plant without delay.**
- ii. **There is no response to chlorine alarms outside of working hours. Irish Water should address response to alarms outside working hours.**

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, in particular to assess progress with achieving adequate contact time in the Templetney public water supply. This audit was carried out to assess the performance of Irish Water in providing clean and wholesome drinking water.

The Templetney public water supply serves a population of 1500 persons in County Tipperary. Two boreholes supply 1,700m³/day. Treatment consists of chlorination only. Disinfected water is supplied directly into the network.

The opening meeting commenced at 10.00am at the Templetney 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:

Name – Job Title

Deirdre O’Loughlin, Southern Region Compliance Analyst, Irish Water.

Duane O’Brien, Above Ground Operations, Irish Water.

John Crowley, Acting Senior Engineer, Tipperary County Council

Joe Burke, Operations and Maintenance Executive Engineer, Tipperary County Council

Flan Real, Assistant Scientist, Tipperary County Council

Áine Butler, Process Technician, Tipperary County Council

Paul Coffey, Acting Caretaker, Tipperary County Council

Representing the Environmental Protection Agency:

Name – Job Title

Yvonne Doris, Inspector;

Cliona Ní Eidhin, 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.	Source Protection <ol style="list-style-type: none">Two new boreholes were drilled in 2009. Depth of wells is unknown, but pumps are at 40metres. The wells are cased to 40m and grouted.The abstraction rate is 65m³/hr. One well is in operation at a time, pumping 24hours/day. Each month the caretaker switches over the operational well.The <i>Cryptosporidium</i> risk assessment score is 34. Agricultural activity in the catchment consists of predominantly grazing. The zone of contribution (ZOC) to the well has been delineated. The landowners in the ZOC have been notified under the Good Agricultural Practices Regulations. No landspreading is carried out in the ZOC. There are some septic tanks in the ZOC.
2.	Chlorination and Disinfection <ol style="list-style-type: none">The first seven properties do not receive adequately disinfected water due to insufficient chlorine contact time. Contact time to the first consumer served was not available from the WSA on the day of the audit. A water restriction is in place on these seven properties since 2012.14/15% low bromate sodium hypochlorite is used for disinfection. A date of manufacture of 10/1/2015 was observed on the drums. The caretaker fills the chlorine day tank every fortnight with about 100 litres of neat sodium hypochlorite.Dosing is at 0.5mg/l. Dosing is flow proportional, with the assist pump linked to the chlorine residual. Duty, standby and assist dosing pumps with automatic switchover, if one should fail, are in place. The caretaker switches between the duty and standby pump every month.The chlorine monitor is taking a reading from about 10metres from the treatment plant, after the static mixer. It was reading 0.497mg/l at the time of the audit. The low chlorine alarm is 0.25mg/l and the high chlorine alarm is 1.5mg/l. The chlorine monitor is calibrated monthly by a Tipperary County Council technician and serviced every 6 months.There is no out of hours response to alarms and no automatic shutoff of the plant if the residual chlorine drops to zero. Irish Water plan to have automatic shutoff (based on two chlorine monitor readings) in place when the contact tank is installed.The caretaker takes free chlorine readings daily and the technician takes weekly readings in the network. Chlorine residual records were inspected and all readings were above 0.1mg/l.
3.	Treated Water Storage and Distribution Network <ol style="list-style-type: none">Disinfected water is supplied directly into the network. The first seven properties do not receive adequately disinfected water due to inadequate chlorine contact time.Irish Water plan to install a contact tank to achieve 15mg.min/l effective chlorine contact time to the first consumers within 4 or 5 months.
4.	Chemical storage and bunds <ol style="list-style-type: none">All chemicals were adequately banded in locked chemical stores. Procedures for stock control are in place and undertaken for all sites by one of the caretakers.

5.	<p>Hygiene and Housekeeping</p> <p>a. The plant was clean, secure and well maintained. Uncapped water pipes were being stored onsite.</p>
6.	<p>Management and Control</p> <p>a. The interim solution (to resolve the immediate issue of inadequate contact time) is the installation of a contact tank at Templetney. The Capital Project is due to commence in June 2015. The project has been tendered. Tenders are to be assessed on 25/3/15. It is expected the project will be completed within 4 or 5 months.</p> <p>b. The medium-term plan is to replace the Templetney supply with an extension of the Graigue public water supply. This will comprise a new well at Bracken Bridge, which will pump to Templetney where the new contact tank will then act as a collection tank and water from there will be pumped to Killurney water treatment plant where it will be treated and distributed to the area now served by Templetney and Graigue water supplies.</p> <p>c. Dosing pumps are serviced annually (last serviced 6/3/2015).</p> <p>d. Procedures were on display at the treatment plant. Monitoring and record-keeping was very good.</p>

3. AUDITORS COMMENTS

The Templetney public water supply is well managed. Works to address contact time to the first seven customers should be progressed without delay. Irish Water should address the response to alarms outside of working hours.

4. RECOMMENDATIONS

Source Protection

1. Irish Water should liaise with the relevant local authority in relation to inspections of domestic waste water treatment systems within the zone of contribution to the well.

Disinfection

2. Irish Water should ensure that the contact tank is installed without delay to ensure 15mg.min/l effective contact time achieved and that the first connections are receiving appropriately disinfected drinking water. Irish Water should submit a revised calculation of the effective contact time to the Agency.

Chemical Storage and Bunds

3. Irish Water should ensure that expiry dates are visible on sodium hypochlorite drums to ensure that stocks of chemicals are maintained in date.

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, Drinking Water Team Leader.

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:

26/3/2015

Yvonne Doris

Inspector