



Drinking Water Audit Report

County:	Laois	Date of Audit:	19 August 2014
Plant(s) visited:	Mountmellick PWS	Date of issue of Audit Report:	21 August 2014
		File Reference:	DW2009/224
		Auditors:	Mr. Darragh Page Ms. Aoife Loughnane
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 EPA Report on <i>The Provision and Quality of Drinking Water in Ireland</i>. • The recommendations in any previous audit reports. 		

MAIN FINDINGS

- i. Considerable improvements have been made to the safety and security of the Mountmellick PWS with the replacement of the Catholes source, and the subsequent replacement of the Derryguile and Eyne boreholes with the Straboe borehole. These actions should lead to improved water quality being supplied to consumers in Mountmellick.
- ii. Laois County Council has undertaken considerable source protection work in a systematic and comprehensive way which is to be commended.

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 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 Mountmellick PWS produces approximately 1,000 m³/day and serves around 5,000 consumers. Water was previously supplied to consumers via the Derryguile, Eyne and Catholes sources. There have been various reconfigurations of the supply arrangements in recent years and since the 22 July 2014 water to Mountmellick is supplied from the Straboe borehole (which formerly supplied into Portlaoise) exclusively.

The opening meeting commenced at 2.00 pm at Derryguile borehole and pumphouse. 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: (* indicates that person was also present for the closing meeting)

John Gavin – Operations and Maintenance, Irish Water*

Tselophile Tlou – Water Engineer, Irish Water*

Stan Cullen – Engineer, Laois County Council*

Liam Madden – Caretaker, Laois County Council*

Larry Gittens – Supervisor, Laois County Council*

Representing the Environmental Protection Agency:

Darragh Page – Inspector

Aoife Loughnane - 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 a. Laois County Council outlined the extensive source protection work that has been done in Laois. Maps of the zone of contribution were delineated for each source in the county and all farms with in the ZOC were identified and prioritised for inspection. The results of these inspections were mapped showing those that were non-compliant. These farms were written to advising them of the issues and cross reported to the Department of Agriculture, Food and the Marine. Follow up inspections were carried out and, where necessary, further enforcement action was taken. b. Laois County Council has written to all farmers with land within the setback distances under the <i>European Union (Good Agricultural Practice for the Protection of Waters) Regulations 2014 (SI No.31 of 2014)</i> to ensure that they were aware of the setback requirements. c. The land in the immediate vicinity of the Straboe borehole is owned by Coillte and is used for forestry. d. Raw water monitoring has been carried out on the Straboe borehole in May and June 2014 and all results were satisfactory. e. There was a raw water turbidity monitor on the Straboe borehole. At the time of the audit the monitoring was fluctuating between 1.6 and 2.1 NTU. IW stated that the monitor had been calibrated but could not provide an explanation for the high turbidity as the final turbidity in the treated water (which is not filtered) was low. f. Borehole logs were not available on the day of the audit, however, Laois County Council stated that they were available and on record in the Council Offices.
2.	Chlorination and Disinfection a. The supply is disinfected at the Derryguile Reservoir prior to entry of the water into the reservoir using chlorine gas. The water is then passed over an aerator. IW stated that this was to remove hydrogen sulphide from the previous sources. The Straboe source does not have this issue and therefore the aeration is no longer necessary. b. The chlorine gas is supplied by BOC. BOC is not on the list of authorised suppliers of biocides http://www.pcs.agriculture.gov.ie/biocides/Biocidal%20Product%20Register%20-%202012%20May%202014.pdf and therefore IW are not in compliance with the EU Biocidal Products Regulations (528/2012) and associated Irish regulations (the <i>European Union (Biocidal Products) Regulations, 2013</i>).

	<ul style="list-style-type: none"> c. Duty/standby dosing arrangements with auto changeover are in place. d. There are two chlorine monitors at the Derryguile Reservoir. The first is located within the reservoir where contact time is estimated to be complete and the second is located on the main coming out of the reservoir. The monitors were reading 0.37 and 0.29 mg/l respectively. Dosing is residual based on a set point of 0.41 mg/l and is linked to the first monitor. There is a low (0.2 mg/l) and high (1.0 mg/l) chlorine alarm in place with an associated cascade system for response. e. Daily monitoring is carried out in the network and all results reviewed were adequate (i.e. >0.1 mg/l).
3.	<p>Treated Water Storage</p> <ul style="list-style-type: none"> a. Following aeration, chlorinated water is stored in the Derryguile Reservoir (capacity 900 m³). There is an adjacent reservoir that is no longer in use. b. IW stated that they are reviewing the storage arrangements in Mountmellick and may construct a new reservoir. Consultants have been appointed to inspect the reservoir.
4.	<p>Monitoring and Sampling Programme</p> <ul style="list-style-type: none"> a. 1 audit and 6 check sample monitoring results for the Mountmellick supply for 2014 were presented by IW during the audit. b. All results were compliant with the exception of a single elevated turbidity result of 5.6 NTU in the network. A single THM monitoring result of 9.7 µg/l was reported on 20 June 2014.
5.	<p>Exceedances of the Parametric Values</p> <ul style="list-style-type: none"> a. The supply was originally on the Remedial Action List (RAL) for THMs. During this audit it was confirmed that the source of the THMs (i.e. the use of the Catholes as a source) has been discontinued. b. The turbidity exceedances reported in early 2014 were due to the use of the Derryguile source. The use of this source was discontinued on 22 July 2014.

3. AUDITORS COMMENTS

Considerable improvements have been made to the safety and security of the Mountmellick PWS with the replacement of the Catholes source (which contributed to the THM non-compliances) and the Derryguile and Eyne boreholes (which contributed to elevated iron, manganese and turbidity). These actions should lead to improved water quality being supplied to consumers in Mountmellick.

Laois County Council has undertaken considerable source protection work in a systematic and comprehensive way which is to be commended.

4. RECOMMENDATIONS

Source Protection

1. Irish Water should investigate the cause of the fluctuations in results on the turbidity monitor at the Straboe borehole and determine if elevated turbidity (<1.0 NTU) is an issue with this source or whether the elevated readings were due to an issue with the monitor itself.

Disinfection

2. Irish Water should review use of disinfectants at the Mountmellick PWS and all other public water supplies to ensure that all disinfectants are authorised in accordance with the EU Biocides Products Regulation (528/2012) and associated Irish regulations (*European Union Biocidal Products Regulations, 2013*).

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 Ms Yvonne Doris, Drinking Water Team Leader.

The Water Services Authority 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 may 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.

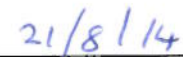
Please quote the File Reference Number in any future correspondence in relation to this Report.

**Report prepared
by:**



Darragh Page
Inspector

Date:



21 August 2014