



Drinking Water Audit Report

County:	Co. Sligo	Date of Audit:	15/06/2016
Plant(s) visited:	Kilsellagh Water Treatment Plant (WTP) and impoundment Scheme Code 2700PUB2706	Date of issue of Audit Report:	29/06/2016
		File Reference:	DW2012/123
		Auditor:	Ms Ruth Barrington
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>. • EPA Drinking Water Advice Notes Nos. 1 to 15. • The recommendations in a previous EPA audit report dated 10th September 2008. 		

MAIN FINDINGS

- i. **Irish Water should assess the data on pesticide levels in the raw water/ feeder streams to determine the source of the pesticide exceedances in the Kilsellagh PWS and take appropriate action to restore compliance with the pesticides parametric values.**

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.

The Kilsellagh PWS supplies a population of approx. 10,700 with 4,594 m³ treated water per day. The DBO plant, operated under contract by EPS, has treatment comprising coagulation, flocculation, DAF, filtration, UV as primary disinfection, chlorination for secondary disinfection and fluoridation. The plant was commissioned in 2010 and replaced the previous treatment of microstraining and chlorine gas disinfection only.

Raw water is abstracted from the Kilsellagh Impoundment, which is fed by three feeder streams and a spring. The streams are capable of diversion when raw water quality deteriorates.

The opening meeting commenced at 09.00 a.m. at Kilsellagh WTP. 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:

Ms Yvonne McMonagle – Drinking Water Compliance Analyst, Irish Water

Mr Justin Doran – DBO Engineer, Irish Water

Representing Sligo County Council

Mr Noel Haran - O&M, Sligo County Council

Ms Majella Sweeney – Environmental Technician, Water Services

Representing EPS

Mr Ciarán Duffy – Area Supervisor, EPS

Mr Tomás Cawley – Process Scientist, EPS

Representing the Environmental Protection Agency:

Ms Ruth Barrington – Inspector, OEE

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 <ul style="list-style-type: none">a. The abstraction for the supply is taken from the Kilsellagh Impoundment. This is fed by three streams and a spring which flow into the reservoir. The spring source provides about 90% of the reservoir input.b. Each of the streams is capable of being manually diverted if the quality of water is of concern to the operator. The diversion is usually done in the case of heavy rain causing an increase in colour or turbidity in one of the streams.c. The immediate catchment of the streams and reservoir is under low intensity agricultural land and forestry usage.d. The EPA has an open file for pesticide exceedances (MCPA and 2,4-D) for the Kilsellagh PWS. The Environment Section of Sligo Co. Co. sends annual letters to landowners in relation to pesticide control measures, and the feeder streams are monitored every three months for pesticides. The data from this sampling has not been assessed to determine whether one of the streams is a contributor to the pesticide exceedance.e. It was not clear during the audit whether Coillte have been communicated with as part of the Environment Section's activities on notifying landowners of pesticide control measures.f. There is a leak in the Impoundment Reservoir which is awaiting assessment and repair. At present reservoir levels are managed so that the water level is below the leaking area. This is not currently having an impact on water quality as the top two (of three) intakes for raw water are still being used.
2.	Monitoring and Sampling Programme <ul style="list-style-type: none">a. <i>Cryptosporidium</i> sampling of the final water is performed twice yearly, although there is a validated UV disinfection system in place at the plant which means that any <i>Cryptosporidium</i> oocysts present in the final water have been inactivated, cannot reproduce and therefore cannot cause illness as long as the plant operates within its validated range.b. The open file for the Kilsellagh PWS for pesticide exceedances (MCPA and 2,4-D) shows

	<p>pesticides have been detected even outside the normal seasons of pesticide use. The Irish Water response to these exceedances is being handled under their Pesticides Strategy and their plan for the North West Region; it involves increased levels of monitoring and liaison with other bodies in relation to catchment inspections and awareness programmes.</p>
<p>3.</p>	<p>Chemical storage and bunds</p> <ol style="list-style-type: none"> a. The chemical storage was provided as part of the new plant constructed in 2010. These double skinned tanks are located on a concrete slab in the yard to the front of the plant building. It was noted that the scour point for the sulphuric acid tank indicated some leakage (refer to photograph Ref. ##). There was also some liquid present within the bund space of the tank, and the inspection lid for the bund space was not sealed to prevent rainwater ingress. b. The bunds are located outside on a concrete area where surface water drains via gullies to the adjacent stream.

3. AUDITOR'S COMMENTS

In general Kilsellagh water treatment plant appears to be well operated and provides much improved treatment compared to that in place at the time of the previous EPA audit in 2008. The EPA has one file open for this supply on the basis of pesticide exceedances (MCPA and 2,4-D) and pesticides have been detected even outside the normal seasons of pesticide use. This needs to be addressed by Irish Water and steps taken to restore compliance with the pesticide parameters.

4. RECOMMENDATIONS

Source Protection

1. Irish Water should review the current *Cryptosporidium* monitoring programme on the grounds that the EPA does not require *Cryptosporidium* monitoring to continue at any plant where there is an appropriate UV system in place which operates within its validated range.
2. Irish Water should liaise with the Environment Section of Sligo County Council to establish whether (i) data from the monitoring of the feeder streams can be used to assess the origin of the pesticides detected in the Kilsellagh supply and combined raw water, and (ii) whether other potential sources such as forestry activities/ Coillte have been contacted in relation to pesticide use.
3. Irish Water should establish a plan and timeframe for completion of the necessary repairs to the Impoundment berm wall.

Exceedances of parametric values

4. Irish Water should continue the work proposed to investigate and respond to pesticide exceedances in Kilsellagh PWS to restore compliance with the pesticide parameters as outlined in the plans for the North West region. The steps set out in an Irish Water email "ten point action plan" for the enhanced involvement of stakeholders dated 27/06/2016 should be included.

Chemical Storage and Bunds

5. Irish Water should review the chemical storage arrangements at the treatment plant. This review shall consider the tank integrity, and in particular the scour point on the sulphuric acid bunded bulk tank which appears to be leaking. The layout of surface water drainage should also be considered, where drainage in the storage area leads directly to the adjacent stream. EPA guidance document –“*IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities*” provides information on bund integrity assessment for reference.

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 Aoife Loughnane, 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:



Date:

29/06/2016

Ruth Barrington

Inspector