Drinking Water Audit Report

County:	Waterford	**Date of Audit:**	13/02/2019
Plant(s) visited:	Ring/Helvick/Seaview PWS (Scheme code) 3100PUB1084	**Date of issue of Audit Report:**	06/03/2019
		File Reference:	DW2008/340
		Auditors:	Regina Campbell
Audit Criteria:	• The *European Union (Drinking Water) Regulations 2014 (S.I. 122 of 2014, as amended.* • *The EPA Handbook on the Implementation of the Regulations for Water Services Authorities for Public Water Supplies (ISBN: 978-1-84095-349-7)* • The recommendations specified in the EPA *Drinking Water Report*. • EPA Drinking Water Advice Notes No.s 1 to 15. • The recommendations in any previous audit reports.		

MAIN FINDINGS

i. **Irish Water has not complied with the EPA's Regulation 10(4) Direction issued on the 01/03/2016 to ensure that the drinking water supplied to consumers on the Ring/Helvick/Seaview public water supply complies with the trihalomethanes parametric value by the 31/12/2018.**

ii. **Irish Water is progressing construction works in order to decommission the Ring/Helvick/Seaview Water Treatment Plant and replace the supply with water from the Dungarvan Water Treatment Plant. Irish Water have advised the EPA that the Projected Date of Completion of the works is September 2019. These works should be progressed without delay.**

iii. **Irish Water should confirm that all monitors have been serviced and calibrated and that records are kept at the water treatment plant.**

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 purpose of the audit was to determine compliance with the EPA's Regulation 10(4) Direction, issued on the 01/03/2016, which requires Irish Water to ensure that the Action Programme for the improvement of the quality of the water in the Ring/Helvick/Seaview public water supply is implemented so as to ensure compliance with the triahlomethanes parametric value by no later than 31/12/2018. The supply is on the EPA's Remedial Action List for public water supplies (RAL) as a result of persistent triahalomethanes failures.

The main focus of the audit was to check that Irish Water is progressing works in order to decommission the Ring/Helvick/Seaview Water Treatment Plant and replace the supply with water from the Dungarvan Water Treatment Plant.

The water treatment plant is supplied by the Reamanagh Stream. According to information supplied by Irish Water, the supply serves 661 persons and produces a volume of 196m^3/day. Treatment at the plant consists of slow sand filtration and chlorination.

The opening meeting commenced at 10.25am at the 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: Brian O' Leary, Operations Lead Pat Duggan, Compliance Specialist Siobhan Clifford, Compliance Analyst Representing Waterford City and County Council (WCCC): Denis Conway, Caretaker Declan Halpin, Technician Ciaran Bourke, Engineer John O' Sullivan, SEE, Capital Works Representing the Environmental Protection Agency: Regina Campbell, 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. The source of the supply is the Reamanagh Stream. The intake was not visited due to time constraints. The raw water is piped to the plant where it is passed through a fine mesh screen. b. There is a turbidity and ammonia monitor on the raw water and both are alarmed (turbidity at 8 NTU and ammonia at 0.02 mg/l). During the audit the turbidity monitor for the raw water was reading 0.95 NTU. There were no calibration or servicing records for the raw water monitors available at the plant.
2.	**Filtration** a. There are six slow sand filters at the water treatment plant. There is a cleaning schedule in place. b. The caretaker advised there is approximately 600mm depth of sand in the filters and that they were resanded a couple of years ago. c. There is a combined flow monitor for all of the filters. At the time of the audit this was reading 9.69 m^3/hr. There was no servicing or calibration record for the turbidity monitor available at the site. d. There is no continuous turbidity monitor on each filter. Turbidity of the final water is continuously monitored with the sampling point located at the second reservoir. The final water turbidity monitor is linked to telemetry and is alarmed at 0.5 NTU. I was informed that typical final water turbidity is 0.05- 0.06 NTU. Trend data viewed at the audit indicated that this was the case. This final water turbidity monitor had a fault on the previous day and was not reading correctly on the day of the audit. A back-up turbidity monitor, that is not normally relied on as part of day to day operations, was operational. No calibration record was available for

	the back-up monitor. Irish Water confirmed the day after the audit that the final water turbidity monitor was operational again.
3.	**Disinfection** a. The water is disinfected using 14-15% low bromate sodium hypochlorite. Duty and standby/assist chorine dosing pumps are in place with automatic switchover. Dosing is flow proportional. b. The low chlorine alarm is set at 0.9mg/l and the high chlorine alarm is set at 1.4mg/l. c. There was no record available on site of the servicing or calibration of the chlorine monitors. d. During the audit the residual chlorine monitor was reading 1.31mg/l. e. Manual residual chlorine tests are undertaken by the caretaker daily. f. A cascade system is in operation for alarms. g. Residual chlorine monitoring is undertaken in the network daily by the caretaker.
4.	**Treated Water Storage and Distribution Network** a. There are two storage reservoirs on-site. The first reservoir was constructed in the 1930's with the second reservoir constructed approximately 15 years ago. I was informed that the newer reservoir will remain in use after the rest of the water treatment plant is decommissioned. b. The PAX system used for partial reduction of THMs was operating in the second reservoir.
5.	**Exceedances of the Parametric Values** a. The most recent exceedance for the Trihalomethanes parametric value notified to the EPA was for a sample taken on 11/12/2018. b. There have been no other parameter exceedances notified to the EPA.
6.	**Chemical storage and bunds** a. There was no expiry date on the drums of sodium hypochlorite. The date of manufacture was 20/12/18.
7.	**Hygiene and Housekeeping** a. The plant was clean, tidy and well-maintained.
8.	**Management and Control** a. The caretaker was knowledgeable and helpful about the management and control of the water treatment plant. Daily record-keeping was good.
9.	**Progress in relation to Construction Works** Correspondence received from Irish Water on 08/02/2019 in relation to the decommissioning of the Ring/Helvick/Seaview water treatment plant and connection to the Dungarvan supply indicated that the following works were complete: • Over 2km of the 13.5km of pipeline laid to date, with works ongoing daily. • The two lower reservoirs were 95% complete. • The Upper Reservoir was approximately 65% complete with the base slab constructed and the installation of the wall panels complete. • Groundworks for the Springmount Pumping Station were ongoing. Irish Water said that the following works are to be completed: • Approximately 11km of pipeline to be laid. • Construction of the Springmount Pumping Station superstructure is due to commence shortly. I was informed at the audit that connection to the Dungarvan supply to enable decommissioning of the Ring/ Helvick/Seaview treatment plant is on track for completion in September 2019, with all relevant verification information and data to be submitted to the EPA by end of Q4 2019.

	On the day of the audit, I observed the construction works at the two lower reservoirs and upper reservoir and groundworks for the Springmount Pumping Station.

3. AUDITORS COMMENTS

The EPA issued a Regulation 10(4) Direction to Irish Water on the 01/03/2016 directing that Irish Water ensure that the Action Programme for the improvement of the quality of the water in the Ring/Helvick/Seaview public water supply is implemented so as to ensure compliance with the trihalomethanes parametric value by no later than 31/12/2018.

Irish Water should progress the planned connection to the Dungarvan supply without delay in order to ensure that the drinking water supplied to consumers complies with the trihalomethanes parametric value.

4. RECOMMENDATIONS

General

1. Irish Water should progress the planned connection to the Dungarvan supply without delay in order to ensure that the drinking water supplied to consumers complies with the trihalomethanes parametric value. The current completion date given by Irish Water of September 2019 goes beyond the compliance deadline of 31/12/2018 stated in the Direction issued by the EPA under Regulation 10(4) of the European Union (Drinking Water) Regulations 2014. The Agency will continue to monitor progress with the upgrade works to ensure compliance with the trihalomethanes parametric value and further enforcement action may be considered.

Chemical Storage and Bunds

2. Irish Water should ask chemical suppliers to provide an expiry date on all chemicals supplied.

Management and Control

3. Irish Water should confirm that all monitors have been serviced and calibrated and that records are kept at the water treatment plant.

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 Dr. Michelle Minihan, Senior Inspector.

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: Regina Campbell **Date:** 06/03/19

Regina Campbell

Inspector