Site Visit Report

Under the *European Union (Drinking Water) Regulations 2014* as amended, the Environmental Protection Agency (EPA) is the supervisory authority in relation to Uisce Éireann and its role in the provision of public drinking water supplies. This audit was carried out to assess the performance of Uisce Éireann in providing clean and wholesome water to the public water supply named below.

The audit process is a sample of the performance of a water treatment plant and public water supply on a given date.

Water Supply Zone

Name of Installation	South Leitrim Regional
Organisation	Uisce Éireann
Scheme Code	1700PUB1100
County	Leitrim
Site Visit Reference No.	SV27394

Report Detail

Issue Date	17/02/2023
Prepared By	Lorcan Farrell

Site Visit Detail

Date Of Inspection	24/01/2023	**Announced**	Yes
Time In	10:00	**Time Out**	13:20
EPA Inspector(s) **Additional Visitors**	Lorcan Farrell		
Company Personnel	Uisce Éireann: Eamonn Doherty, Vincent McGrath. Leitrim County Council (working under Service Level Agreement to Uisce Éireann): Maeve Coultry, Cathal Gormley, Colleen Mc Weeney, Kevin Meehan, Finnian Travers.		

Summary of Key Findings

(1) The audit found that Carrick-on-Shannon Water Treatment Plant (WTP) was operating satisfactorily on the day of the audit.

(2) There are upgrade works ongoing at the treatment plant under an Uisce Éireann treatment upgrade programme. These works include: filter upgrades, the installation of a new streaming current coagulant dosing control system and the introduction of sulphuric acid dosing to assist in achieving optimum coagulation pH.

Introduction

South Leitrim Regional Public Water Supply serves a population of 15,390 people (EDEN figure) and and is supplied by Carrick-on-Shannon WTP which produces approximately 10,500 m3/day. The source for the treatment plant is the River Shannon and treatment consists of alkalinity adjustment, coagulation, clarification, filtration, chlorination, fluoridation and pH correction.

The audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water.

Supply Zones Areas Inspected

The audit comprised of a site visit to Carrick-on-Shannon WTP and an inspection of the treatment plant.

1. Coagulation Flocculation and Clarification (CFC) Stage

		Answer
1.1	Is the CFC process optimised to respond to changes in raw water quality?	No

Comment

(1) Aluminium sulphate is the coagulant used at the treatment plant. Raw water pH ranges between 7.3-7.8 over the course of the year and it was stated that during the summer months there are times when pH increases to levels where it would be beneficial to have pH correction in place to optimise coagulation.

(2) There is an existing automatic coagulant dosing system in place at the treatment plant. It was stated that during winter/cold weather that it is necessary to revert to manual control for coagulant dosing. Jar tests are performed regularly to inform process optimisation.

(3) A new streaming current coagulation dosing control system is currently being installed at the treatment plant to replace the existing automatic coagulant dosing control system. This includes the installation of a new sulphuric acid dosing system for coagulation pH control. The new system will allow for automatic dosing control to assist in optimising pH and coagulant dose. It was stated that a six month period of monitoring was due to commence shortly followed by operation verification in automatic mode for a period of three months. Works are due to be completed by the end of 2023.

2. Filtration

		Answer
2.1	Are the filters designed and managed in accordance with EPA guidance?	Yes

Comment

(1) There are eight rapid gravity filters at the treatment plant which are currently being upgraded. Each filter is being structurally assessed and repaired, fitted with a new underdrain system and being upgraded to dual media (anthracite and silica sand).

(2) While filter operation and filter backwashes are visually assessed by staff, there are a number of regular operational checks outlined in Table 5.4 of the *EPA Water Treatment Manual: Filtration* that are not being completed regularly at the treatment plant. Appropriate records of operational checks should also be maintained as outlined in Section 5.5.4 of the *EPA Water Treatment Manual: Filtration.*

3. Reservoirs and Distribution Networks

		Answer
3.1	Are reservoirs adequately inspected and maintained?	No

Comment

(1) No date was available for the last time Lower and Upper Mong reservoirs were cleaned. It was stated that infrastructural issues and supply constraints posed operational difficulties in draining down the reservoirs for cleaning/inspection to take place. All other reservoirs within the network have been inspected and cleaned under the Uisce Éireann Reservoir Inspection and Maintenance Programme.

4. Treatment Process Chemicals

		Answer
4.1	Are treatment process chemicals appropriately managed and stored?	No

Comment

(1) Treatment process chemicals at the plant were appropriately stored in bunds however, management of bunds could be improved and cleaned of debris.

5. Management and Control

		Answer
5.1	Is there a documented alarm response procedure?	Yes

Comment

(1) A documented incident response procedure is in place at the treatment plant and training has been received by operational staff, however there was no copy of the incident response procedure or contact list posted in a visible place for operational staff at the treatment plant.

		Answer
5.2	Are instrument calibrations within date?	No

Comment

(1) The calibration/service date had been exceeded on the flouride day tank weigh scales.

		Answer
5.3	Is the data obtained from sampling and monitoring used to actively inform the processes on site and in the distribution network?	No

Comment

(1) The raw water online ammonia monitor was not operational and has been out of service for approximately six months. A contractor has been contacted to repair the monitor. No timescale for the completion of repairs was available.

6. Site Specific Issues

		Answer
6.1	Is pest control appropriate at the water treatment plant?	No

Comment

A number of rodent bait boxes were located on-site at the treatment plant. *EPA Advice Note No.13 – Pesticides in Drinking Water* states that the use of rodenticides should be avoided unless absolutely necessary and where they are used, it should be for a limited duration until the problem is brought under adequate control.

Recommendations

Subject	South Leitrim Regional Audit Recommendations	Due Date	17/03/2023
Action Text	**Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.** 1. Ensure that works in relation to the installation of the new sulphuric acid dosing and streaming current dosing control systems are completed to ensure CFC processes at the treatment plant are optimised to respond to changes in raw water quality. 2. Ensure that a copy of the incident response procedure and contact list are displayed at the treatment plant. 3. Conduct regular operational checks of filters at the treatment plant and maintain adequate records of these checks in accordance with the *EPA Water Treatment Manual: Filtration.* 4. Ensure that the Lower and Upper Mong reservoirs supplied by the treatment plant are included in the Uisce Éireann Reservoir Inspection and Maintenance Schedule. 5. Ensure that the raw water ammonia meter at the treatment plant is repaired and returned to service. 6. Ensure that chemical storage bunds at the treatment plant are kept clean and free of debris. 7. Ensure that the flouride day tank weigh scales at the treatment plant is calibrated/serviced. 8. Review the use of rodenticide at the treatment plant having regard to *EPA Advice Note No. 13: Pesticides in Drinking Water*. **Actions required by Uisce Éireann** During the audit, Uisce Éireann representatives were advised of the audit findings and that action must be taken by Uisce Éireann to address the issues raised. Uisce Éireann should submit a report to the EPA on or before 17/03/2023 detailing the actions taken and planned, with timescales, to close out the above recommendations. The EPA advises that the findings and recommendations from this audit report should, where relevant, be addressed at other public water supplies.		