

Site Visit Report

Under the *European Union (Drinking Water) Regulations 2023*, 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	North Sligo Regional Water Supply
Organisation	Uisce Éireann
Scheme Code	2700PUB2705
County	Sligo
Site Visit Reference No.	SV29964

Report Detail	
Issue Date	04/04/2024
Prepared By	Maria O'Connell

Site Visit Detail			
Date Of Inspection	29/02/2024	Announced	Yes
Time In	10:00	Time Out	12:24
EPA Inspector(s)	Maria O'Connell		
Additional Visitors			
Company Personnel	Uisce Eireann: Fionnuala Bonner Sligo County Council (working in partnership with Uisce Eireann): James Melvin, Dessie Daly, Garry Dykes CSL Representative: Liam Keenan		

> Summary of Key Findings

1. There are a number of outstanding recommendations following the EPA audit in 2022 including: provision of automatic shutdowns, monitoring of network residual chlorine levels and the provision of a standby UV unit.
2. There is no automatic shutdown on the UV unit in the event of the validation criteria not being met.
3. There are no turbidity alarms or inhibits on individual filters and there are no inhibits for high turbidity levels in the final water.

> Introduction

North Sligo Regional PWS serves a population of 4745. Surface water is abstracted from two streams (Gortnaleck and Lyle) approximately 1km from the plant which are supplemented by Ardnaglass borewell which is influenced by surface water. The hourly abstraction rate is 124m³/hr and design capacity of the plant is 125m³/hr. The water treatment plant produces approximately 2104m³/day of treated water per day. Uisce Éireann confirmed that a source and sanitary survey was completed in 2020 and a 3 Log protozoal treatment requirement has been assigned. Treatment consists of screening, coagulation (ferric sulphate and polyelectrolyte), clarification, filtration, UV, pH correction followed by chlorination and fluoridation. There is a run to waste system onsite. This audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water focusing on the protozoal barriers in place at the treatment plant and to assess progress against the previous EPA audit recommendations (issued 2022).

> Supply Zones Areas Inspected

The audit included a site tour of treatment processes at North Sligo Regional WTP.



1. Sludge Management

		Answer
1.1	Is sludge arising from the treatment processes adequately managed?	No
Comment		
<p>Pipe infrastructure leading from the sludge centrifuge unit requires attention to prevent spillages while the plant awaits the provision of a new holding tank in this area. No timeframe was available for the installation of the tank at the time of the audit. Sludge waste is removed by a permitted contractor approximately every six days.</p>		



2. Protozoal Barriers Audits 2024

		Answer
2.1	Are the filters designed and managed in accordance with EPA guidance?	No
Comment		
<p>1. There are four rapid gravity filters on site. The filter media was last replaced on 26/05/2016 but the current filter media depth could not be confirmed at the time of the audit. A backwash occurs daily and is triggered by time only.</p> <p>2. There are no alarms or shutdowns available on individual filters. Alarms of 0.3 and 0.5 NTU were enabled on final water turbidity levels however there is no shutdown on high turbidity levels in the final water.</p>		

		Answer
2.2	Is the UV system suitably validated?	Yes
Comment		
<p>1. The UV disinfection unit onsite (WEDECO Specktron 350e) is validated to the ONORM standard. The certificate reviewed on site contained registration number W1.584 and is valid up to the end of April 2024.</p>		

		Answer
2.3	Are there duty and standby UV units in operation?	No
Comment		
<p>1. There is no standby UV unit in operation at the water treatment plant. In 2023 Uisce Éireann outlined that a standby unit was not being considered at that time as the CFC/RGF processes were capable of meeting the respective barrier credits.</p> <p>2. The operators advised that the onsite reservoir had 6 hours storage.</p>		

		Answer
2.4	Are service due/ instrument calibration for the UV units within date?	No
Comment		
<p>1. A physical copy of a UV sensor calibration certificate was available at the time of the audit. This certificate was dated 11/05/2023.</p>		

Answer

2.5	Are there suitable plant controls to prevent inadequately treated water entering the distribution network?	No
Comment		
<p>1. There are no plant inhibits in place based for high turbidity as per the <i>EPA Water Treatment Manual: Filtration</i>. Warning alarms for turbidity levels on treated water are set at 0.3 and 0.5 NTU with time delays of 600 secs. There were no alarms or inhibits for turbidity levels on the individual filters.</p> <p>2. Warning alarms are in place for high/low residual chlorine at 0.5 and 0.4mg/l (low) and 0.50 and 2.0mg/l (high). The minimum free chlorine level at Ct validation point is 0.75mg/l as per the chlorine contact time calculation submitted.</p> <p>3. The shutdown for high and low residual chlorine levels was not commissioned at the time of the audit but works are progressing to implement this action.</p>		

		Answer
2.6	Are alarms and shutdowns appropriately set on the UV disinfection system?	No
Comment		
<p>1. A warning alarm is enabled on the UV unit in the event of validation criteria not being met however there is no shutdown function enabled in the event of validation criteria not being met.</p>		



3. Site Specific Issues

	Answer
3.1 Have landowners in proximity to the abstraction points been informed on the Good Agricultural Practice Regulations?	No
Comment	
1. It could not be confirmed at the time of the audit if landowners/farmers adjacent to the abstraction points for the plant had been advised regarding the updated Good Agricultural Practice Regulations.	

Recommendations

Subject	North Sligo Regional Audit 2024	Due Date	28/06/2024
Action Text	<p>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay</p> <ol style="list-style-type: none"> 1. Complete the recommendations from the previous EPA Audit (2022): (i) the commissioning of a plant inhibit on low/high residual chlorine levels and confirmation that alarms for high and low residual chlorine levels are in line with the <i>EPA Water Treatment Manual: Disinfection</i> (ii) network sampling for residual chlorine should be undertaken for this supply as per the <i>EPA Water Treatment Manual: Disinfection</i> - i.e., undertaken several times per week and at a number of locations in the network including the extremities (iii) Uisce Eireann is requested to provide clarification on the reason why a standby UV Unit is not provided for at this plant. 2. UV: (i) provide for automatic shutdown on the current UV disinfection unit and provide confirmation from the manufacturer on the continued validity of the unit as the validation certificate assessed on site expires at the end of April 2024 (ii) provide confirmation of the manufacturer's instructions regarding the frequency of UV sensor calibration (ii) retain records of weekly UVT sensor checks. 3. Filtration: Ensure that filtration operations are undertaken as outlined in the EPA Water Treatment Manual: Filtration via the (i) installation of appropriate alarms and inhibits on each individual filter; (ii) establishing automatic backwashing linked to turbidity/headloss alarm setpoints; (iii) ensuring the filter media depth meets the minimum depth requirements, iv) installing a depth marker post for the filter media and submitting current filter media levels; (v) developing and maintaining a filter log as per the <i>EPA Water Treatment Manual: Filtration</i>. 4. Progress the installation of the holding tank at the centrifuge area and provide a timeframe for the completion of this work. Ensure that corrective action is undertaken to secure the pipe infrastructure in this area 5. Provide confirmation that landowners/farmers adjacent to the abstraction points for the plant have been advised on the Good Agricultural Practice Regulations. <p>Actions required by</p> <p>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.</p> <p>Uisce Éireann should submit a report to the EPA on or before 28/06/2024 detailing the actions taken and planned, with timescales, to close out the above recommendations.</p> <p>The EPA advises that the findings and recommendations from this audit report should, where relevant, be addressed at other public water supplies.</p>		