

Site Visit Report

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 Audit was carried out to assess the performance of Irish Water in providing clean and wholesome water to the visited public supply.

The audit process is a sample on a given date of the facility's operation. Where a finding against a particular issue has been reported this should not be construed to mean that this issue is fully addressed.

Water Supply Zone	
Name of Installation	North Sligo Regional Water Supply
Organisation	Irish Water
Scheme Code	2700PUB2705
County	Sligo
Site Visit Reference No.	SV26077

Report Detail	
Issue Date	29/11/2022
Prepared By	Joseph Brereton

Site Visit Detail			
Date Of Inspection	18/10/2022	Announced	Yes
Time In	12:45	Time Out	14:10
EPA Inspector(s)	Joseph Brereton		
Additional Visitors			
Company Personnel	Irish Water: Yvonne McMonagle, Fionnuala Bonner Sligo Co. Council: Ken Wright, Benny Maguire, Peter Duignan, James Melvin		

> Summary of Key Findings

- (1) Disinfection consists of chlorination and UV. The audit found that the disinfection system was operating satisfactorily during the inspection.
- (2) Irish Water advised that there is no automatic shutdown of the WTP linked to the chlorine alarms.
- (3) The frequency of residual chlorine monitoring in the network should be increased.
- (4) Irish Water advised that there is no standby UV unit.
- (5) A copy of the disinfection alarm response procedure was not available on site.
- (6) The validation certificate for the UV unit was out of date.

> Introduction

The North Sligo Regional Public Water Supply (PWS) produces approximately 1,894 m³/d of water serving a population of 4,625 (EDEN figures). The audit focused on the disinfection system at the North Sligo WTP. The site has been assessed under Irish Water's Disinfection Programme and reported to the EPA as having been fully commissioned and available on telemetry on 25/06/2018.

> Supply Zones Areas Inspected

This audit assessed the chlorination and UV disinfection system at the North Sligo WTP.



1. Disinfection Programme Audits 2022

		Answer
1.1	Is chlorination used for primary disinfection?	Yes
		Answer
1.2	Did Irish Water confirm the type of chlorine disinfectant in use?	Yes
		Answer
1.3	Are there duty and standby chlorine dosing pumps in place?	Yes
		Answer
1.4	Is there automatic switchover in the event of failure of one of the chlorine dosing pumps?	Yes
		Answer
1.5	Is the chlorine dosing rate flow proportional?	Yes
		Answer
1.6	Is the chlorine dosing rate fixed?	Not Applicable
		Answer
1.7	Can IW / LA confirm the target residual chlorine level for the final water leaving the plant?	Yes
		Answer
1.8	Is there a continuous residual chlorine monitor on the final water?	Yes
		Answer
1.9	Can data trends from the online residual monitor be viewed on site?	Yes
		Answer
1.10	Are there low and high chlorine alarm settings?	Yes

		Answer
1.11	Is there an alarm response procedure available on site for responding to chlorine alarms?	Yes
	Comment	
	Hard copy of response procedure not on site on day of audit.	
		Answer
1.12	Is there automatic shutdown of the supply in the event of the chlorine level dropping below the low chlorine alarm setting or rising above the high chlorine alarm setting?	No
		Answer
1.13	Are service due / monitoring instrument calibration dates for the chlorine monitors within date?	Yes
		Answer
1.14	Is the site specific contact time being achieved?	Yes
		Answer
1.15	Is the minimum effective contact time of 15 mg. min/l being achieved?	Not Applicable
		Answer
1.16	Is the residual chlorine level \geq 0.1 mg/l at the extremity of the distribution network?	No
	Comment	
	There was no regular programme of residual chlorine monitoring in the network. No records of chlorine residual levels in the network were available on site.	
	There are four reservoirs on the network with residual chlorine monitors that link to SCADA.	
		Answer
1.17	Is UV treatment used for primary disinfection?	No

		Answer
1.18	Are there duty and standby UV units in operation?	No
		Answer
1.19	Is there automatic switchover between the duty and standby UV units in the event of failure of the duty unit?	Not Applicable
		Answer
1.20	Is there automatic plant shutdown in the event of UV units failing or operating outside of their validated range?	Yes
		Answer
1.21	Is there continuous monitoring of the UV units to verify operation within validation range at all times?	Yes
		Answer
1.22	Can data trends from the online UV monitor(s) be viewed on-site?	Yes
		Answer
1.23	Is there an alarm response procedure available on site for responding to UV alarms ?	Yes
	Comment	
	Hard copy of response procedure not on site on day of audit.	
		Answer
1.24	Are service due / monitoring instrument calibration dates for the UV units within date?	Yes
		Answer
1.25	Is a copy of the validation certificate for the UV disinfection system available on site ?	Yes

Comment

The certificate viewed on site stated that it was valid until 2018.

1.26

Did IW confirm that the UV units are operating within the validation range?

Answer

Yes

1.27

Have all relevant staff received training on the disinfection upgrades?

Answer

Yes

Recommendations

Subject	North Sligo - Disinfection Audit	Due Date	29/12/2022
Action Text	<p>Recommendations</p> <p>Irish Water is responsible for ensuring a safe and secure supply of drinking water. Irish Water should implement the following recommendations without delay.</p> <ol style="list-style-type: none">1. Irish Water should install automatic shutdown of the plant linked to the low and high residual chlorine alarm settings.2. Irish Water should ensure monitoring of residual chlorine is undertaken several times a week at different points of the network to include the network extremities.3. Irish Water should ensure that there are duty and standby UV disinfection units with automatic switchover between the duty and standby UV units in the event of failure of one of the UV disinfection units.4. Irish Water should ensure there is a current validation certificate for the UV unit.5. Irish Water should ensure there is a documented alarm response procedure available at the water treatment plant. <p>Follow-Up Actions required by Irish Water</p> <p>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.</p> <p>This report has been reviewed and approved by Ruth Barrington, Drinking Water Team Leader.</p> <p>Irish Water should submit a report to the Agency on or before 29/12/2022 detailing how it has dealt with the issues of concern identified during this audit.</p> <p>The report should include details on the action taken and planned to address the various recommendations, including time frame for commencement and completion of any planned work.</p> <p>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.</p>		