

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	LERWSS
Organisation	Irish Water
Scheme Code	2400PUB1001
County	Monaghan
Site Visit Reference No.	SV25555

Report Detail

Issue Date	10/06/2022
Prepared By	Criona Doyle

Site Visit Detail

Date Of Inspection	20/05/2022	Announced	Yes
Time In	12:05	Time Out	13:01
EPA Inspector(s)	Criona Doyle Lorcan Farrell; Patricia Mallen; Denise McElvaney.		
Additional Visitors			
Company Personnel	Irish Water: Yvonne McMonagle; Peter Gallagher. Monaghan County Council (acting under service level agreement to Irish Water): Marcia Smyth; Oliver Murtagh; Tom McGuirk.		

Summary of Key Findings

- (1) Disinfection consists of chlorination and ultraviolet (UV) treatment. The audit found that the disinfection system was operating satisfactorily during the inspection.
- (2) There is no facility to switch over to a standby UV unit as only a single duty UV unit is provided. The validation criteria were not displayed on a plate on the UV unit.

Introduction

The Lough Egish Regional Public Water Supply (PWS) produces approximately 4,215m³/d of water serving a population of 10,876 (EDEN figures). The audit focused on the disinfection system at the Lough Egish Regional (Kilkit) Water Treatment Plant (WTP). This site was not surveyed or upgraded under Irish Water's Disinfection Programme.

Supply Zones Areas Inspected

The audit assessed the chlorination and UV disinfection system at the Lough Egish Regional PWS (Kilkit WTP).



1. Disinfection Programme Audits 2022

Answer	
1.1 Is chlorination used for primary disinfection?	Yes
1.2 Can you establish what type of chlorine disinfectant is used?	Yes
1.3 Are there duty and standby chlorine dosing pumps in place?	Yes
1.4 Is there automatic switchover in the event of failure of one of the chlorine dosing pumps?	Yes
1.5 Is the chlorine dosing rate flow proportional?	Yes
1.6 Is the chlorine dosing rate fixed?	Not Applicable
1.7 Can IW / LA confirm the target residual chlorine level for the final water leaving the plant?	Yes
1.8 Is there a continuous residual chlorine monitor on the final water?	Yes
1.9 Can data trends from the online residual monitor be viewed on site?	Yes
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
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?	Yes
1.13 Are service due / monitoring instrument calibration dates for the chlorine monitors within date?	Yes
1.14 Is the site specific contact time being achieved ? If answer is NO, proceed to question 15	Yes
1.15 Is the minimum effective contact time of 15 mg. min/l being achieved?	Not Applicable
1.16 Is the residual chlorine level $\geq 0.1 \text{ mg/l}$ at the extremity of the distribution network?	Yes
1.17 Is UV treatment used for primary disinfection?	No
1.18 Are there duty and standby UV units in operation? Comment There is one UV unit on site (duty unit).	No

1.19	Is there automatic switchover between the duty and standby UV units in the event of failure of the duty unit?	No
	Comment	
	There is no standby UV unit on site.	
1.20	Is there automatic plant shutdown in the event of UV units failing or operating outside of their validated range?	Yes
1.21	Is there continuous monitoring of the UV units to verify operation within validation range at all times?	Yes
1.22	Can data trends from the online UV monitor(s) be viewed on-site?	Yes
1.23	Is there an alarm response procedure available on site for responding to UV alarms ?	Yes
1.24	Are service due / monitoring instrument calibration dates for the UV units within date?	Yes
1.25	Is a copy of the validation certificate for the UV disinfection system available on site ?	Yes
1.26	Is there a plate on the UV unit with the validation criteria?	No
	Comment	

There was no plate on the UV unit detailing the validation criteria for the UV unit.

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

		Answer
1.28	Have all relevant staff received training on the disinfection upgrades?	Not Applicable

Comment

Not applicable as upgrade works have not been undertaken.

Recommendations

Subject	Lough Egish Regional PWS - Disinfection Audit	Due Date	11/07/2022
Action Text	<p>Recommendations</p> <p>Irish Water is responsible for ensuring a safe and secure supply of drinking water. To address these issues, Irish Water should implement the following recommendations without delay.</p> <ol style="list-style-type: none">1. Irish Water should ensure that there are duty and standby UV disinfection units with automatic changeover or plant shutdown in the event of failure of one of the UV disinfection units.2. Irish Water should ensure that there is a plate on the UV unit with the UV validation criteria. <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 Regina Campbell, Drinking Water Team Leader.</p> <p>Irish Water should submit a report to the Agency on or before 11/07/22 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> <p>Please quote the Compliance Plan DW20220053 in any future correspondence in relation to this Report.</p>		