

# 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	
<b>Name of Installation</b>	South Regional
<b>Organisation</b>	Irish Water
<b>Scheme Code</b>	3300PUB1640
<b>County</b>	Wexford
<b>Site Visit Reference No.</b>	SV25677

Report Detail	
<b>Issue Date</b>	15/07/2022
<b>Prepared By</b>	Joanne Creedon

Site Visit Detail			
<b>Date Of Inspection</b>	05/07/2022	<b>Announced</b>	Yes
<b>Time In</b>	10:30	<b>Time Out</b>	11:30
<b>EPA Inspector(s)</b>	Joanne Creedon		
<b>Additional Visitors</b>			
<b>Company Personnel</b>	Irish Water: Samantha Keane, Ronan Walsh.  Wexford County Council (acting under service level agreement to Irish Water): Gary Duggan, John Breen, Liam Cullen, Ian McCartan.		

## > Summary of Key Findings

- (1) Disinfection consists of chlorination. The audit found that the disinfection system was operating satisfactorily during the inspection.
- (2) A documented alarm procedure should be on display.
- (3) The frequency of residual chlorine monitoring in the network should be increased.
- (4) A continuous chlorine residual monitor should be installed on the final water.

## > Introduction

The South Regional (Taylorstown New) Public Water Supply (PWS) produces approximately 5,370m<sup>3</sup>/d of water serving a population of 10,530 (EDEN figures). The audit focused on the disinfection system at the South Regional (Taylorstown New) 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 30/10/2020.

## > Supply Zones Areas Inspected

This audit assessed the chlorination disinfection system at the South Regional (Taylorstown New) WTP.



## 1. Disinfection Programme Audits 2022

		<b>Answer</b>
1.1	Is chlorination used for primary disinfection?	Yes
		<b>Answer</b>
1.2	Did Irish Water confirm the type of chlorine disinfectant in use?	Yes
		<b>Answer</b>
1.3	Are there duty and standby chlorine dosing pumps in place?	Yes
		<b>Answer</b>
1.4	Is there automatic switchover in the event of failure of one of the chlorine dosing pumps?	Yes
		<b>Answer</b>
1.5	Is the chlorine dosing rate flow proportional?	Yes
		<b>Answer</b>
1.6	Is the chlorine dosing rate fixed?	Not Applicable
		<b>Answer</b>
1.7	Can IW / LA confirm the target residual chlorine level for the final water leaving the plant?	Yes
		<b>Answer</b>
1.8	Is there a continuous residual chlorine monitor on the final water?	No
	<b>Comment</b>	
	The residual chlorine monitor (CL17) is not located after the tower at the final water and is located before the tower. CL17 has a delay/ contact coil on the sample water with approx. 30 minute delay to mimic the conditions of the final water. Daily samples of final water are taken and a log of this is noted on an excel sheet.	
		<b>Answer</b>

1.9	Can data trends from the online residual monitor be viewed on site?	Yes
		<b>Answer</b>
1.10	Are there low and high chlorine alarm settings?	Yes
		<b>Answer</b>
1.11	Is there an alarm response procedure available on site for responding to chlorine alarms?	No
	<b>Comment</b>	
	Cascade system is in place for the site. No alarm response procedure document displayed on-site.	
		<b>Answer</b>
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
		<b>Answer</b>
1.13	Are service due / monitoring instrument calibration dates for the chlorine monitors within date?	Yes
		<b>Answer</b>
1.14	Is the site specific contact time being achieved?	Yes
		<b>Answer</b>
1.15	Is the minimum effective contact time of 15 mg. min/l being achieved?	Yes
		<b>Answer</b>
1.16	Is the residual chlorine level $\geq 0.1$ mg/l at the extremity of the distribution network?	Yes
	<b>Comment</b>	
	2 checks per month. No log books/records available to review on-site.	

		<b>Answer</b>
1.17	Is UV treatment used for primary disinfection?	Not Applicable
		<b>Answer</b>
1.18	Are there duty and standby UV units in operation?	Not Applicable
		<b>Answer</b>
1.19	Is there automatic switchover between the duty and standby UV units in the event of failure of the duty unit?	Not Applicable
		<b>Answer</b>
1.20	Is there automatic plant shutdown in the event of UV units failing or operating outside of their validated range?	Not Applicable
		<b>Answer</b>
1.21	Is there continuous monitoring of the UV units to verify operation within validation range at all times?	Not Applicable
		<b>Answer</b>
1.22	Can data trends from the online UV monitor(s) be viewed on-site?	Not Applicable
		<b>Answer</b>
1.23	Is there an alarm response procedure available on site for responding to UV alarms ?	Not Applicable
		<b>Answer</b>
1.24	Are service due / monitoring instrument calibration dates for the UV units within date?	Not Applicable
		<b>Answer</b>
1.25	Is a copy of the validation certificate for the UV disinfection system available on site ?	Not Applicable

		<b>Answer</b>
<b>1.26</b>	Is there a plate on the UV unit with the validation criteria?	Not Applicable
		<b>Answer</b>
<b>1.27</b>	Did IW confirm that the UV units are operating within the validation range?	Not Applicable
		<b>Answer</b>
<b>1.28</b>	Have all relevant staff received training on the disinfection upgrades?	Yes

## Recommendations

<b>Subject</b>	South Regional (Taylorstown New) - Disinfection Audit	<b>Due Date</b>	15/08/2022
<b>Action Text</b>	<p><b>Recommendation(s)</b></p> <p><b>Irish Water is responsible for ensuring a safe and secure supply of drinking water. To address these issues, Irish Water should implement the following recommendation (s) without delay.</b></p> <ol style="list-style-type: none"><li>1. Irish Water should install a continuous chlorine residual monitor on the final water, which is alarmed and linked to a recording device to ensure that either a sudden increase in chlorine demand or a failure of the chlorine dosing system is immediately detected and responded to.</li><li>2. Irish Water should ensure that (a) there is a documented alarm response procedure and (b) that all staff are trained on the alarm response procedure.</li><li>3. 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.</li></ol> <p><b>Follow-Up Actions required by Irish Water</b></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 Michelle Minihan, Drinking Water Team Leader.</p> <p>Irish Water should submit a report to the Agency on or before 15/08/2022 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> <p>Please quote the Action Reference Number DW20220076 in any future correspondence in relation to this Report.</p>		