

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	Carrick-On-Suir (Crottys Lake)
Organisation	Irish Water
Scheme Code	2900PUB0107
County	Tipperary
Site Visit Reference No.	SV25551

Report Detail	
Issue Date	10/06/2022
Prepared By	Criona Doyle

Site Visit Detail			
Date Of Inspection	17/05/2022	Announced	Yes
Time In	11:50	Time Out	12:30
EPA Inspector(s)	Criona Doyle Joanne Creedon; Joe Brereton		
Additional Visitors			
Company Personnel	Irish Water: Samantha Keane. Tipperary County Council (under service level agreement to Irish Water): Brid O'Hehir; Eoin Lawlor; John Fogarty; Fintan Collins; James Whelan.		

> Summary of Key Findings

(1) Disinfection consists of chlorination and ultraviolet (UV) treatment. The disinfection system was operating satisfactorily during the inspection.

(2) Irish Water advised that there is no documented procedure for responding to the UV disinfection alarms. The validation criteria were not displayed on a plate on the UV unit. UV Unit No. 1 was past the service due date.

(3) The frequency of residual chlorine monitoring in the network should be increased.

> Introduction

The Carrick On Suir (Crotty's Lake) Public Water Supply (PWS) produces approximately 671m³/d of water serving a population of 2,081 (EDEN figures). The audit focused on the disinfection system at the Carrick On Suir Crotty's Lake Water Treatment Plant (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 22/10/2020.

> Supply Zones Areas Inspected

This audit assessed the chlorination and UV disinfection system at the Carrick On Suir (Crotty's Lake) WTP.



1. Disinfection Programme Audits 2022

		Answer
1.1	Is chlorination used for primary disinfection?	No
		Answer
1.2	Can you establish what type of chlorine disinfectant is used?	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

		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?	Yes

		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 ? If answer is NO, proceed to question 15	Not Applicable

		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?	Yes
	Comment	
	Monitoring of residual chlorine levels is undertaken weekly at network extremities.	

		Answer
1.17	Is UV treatment used for primary disinfection?	Yes

		Answer
1.18	Are there duty and standby UV units in operation?	Yes

		Answer
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1.19	Is there automatic switchover between the duty and standby UV units in the event of failure of the duty unit?	Yes
		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 ?	No
	Comment	
	A documented alarm response procedure for responding to UV alarms was not available on site.	
		Answer
1.24	Are service due / monitoring instrument calibration dates for the UV units within date?	No
	Comment	
	UV unit No. 1 was last serviced on 14/10/22 and the next service due date of 14/04/22 was displayed on the sticker on the unit. Tipperary County Council stated UV unit No. 1 is due to have bulbs replaced after which the next service due date would be updated. UV Unit No. 2 was last serviced on 13/01/22 with next service due on 13/07/22.	
		Answer
1.25	Is a copy of the validation certificate for the UV disinfection system available on site ?	Yes

		Answer
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?	Yes

Recommendations

Subject	Carrick On Suir (Crotty's Lake) 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 monitoring of residual chlorine is undertaken several times a week at different points of the network to include the network extremities.2. Irish Water should ensure that (a) there is a documented alarm response procedure for UV alarms and (b) ensure all staff are trained on the alarm response procedure.3. Irish Water should ensure that the UV unit is regularly maintained and calibrated in accordance with the manufacturer's instructions.4. Irish Water should ensure 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 Compliance Plan DW20220049 in any future correspondence in relation to this Report.</p>		