

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	Ballyjamesduff RWSS
Organisation	Irish Water
Scheme Code	0200PUB0106
County	Cavan
Site Visit Reference No.	SV26217

Report Detail	
Issue Date	15/12/2022
Prepared By	Lisa Noone

Site Visit Detail			
Date Of Inspection	01/12/2022	Announced	Yes
Time In	11:00	Time Out	13:00
EPA Inspector(s)	Lisa Noone Michelle Roche		
Additional Visitors			
Company Personnel	Irish Water: Fionnuala Bonner, John Crowe Cavan County Council: Ciarán Fitzpatrick, Gary Boyd, John McDonald, Brendan Clarke, Leon Conaty, Liz Doherty		

> Summary of Key Findings

1. The audit found that the Ballyjamesduff Water Treatment Plant was operating and performing well in providing clean and wholesome water to the public supply.
2. Treated water storage capacity for the Ballyjamesduff Regional Water Supply Scheme (RWSS) is limited with a maximum of 6 hours' supply in the event of plant shutdown posing a risk to the continuity of supply on activation of critical process shutdowns.
3. A plant shutdown for final water turbidity of 0.9 NTU for 15 minutes was in place. Irish Water should ensure that this setpoint is revised in line with the *EPA Water Treatment Manual: Filtration*.
4. Drums of sodium hypochlorite were not appropriately stored on bunds. Irish Water should provide suitable storage facilities for chemicals.

> Introduction

Ballyjamesduff RWSS serves a population of 4,663 in Ballyjamesduff, Co. Cavan. The water treatment plant (WTP) has a design capacity of circa 4,000m³ per day, with an average of 2,613m³ of treated water being produced at the plant per day. The raw water abstraction is from Nadreegeel Lough, which is located approximately 1km north of Ballyjamesduff Town.

The treatment at the plant comprises pH adjustment, manganese removal (via potassium permanganate), coagulation, flocculation, clarification by dissolved air flotation (DAF), rapid gravity filtration (RGF) via three filters, chlorination and fluoridation. In addition, sludge treatment at the plant consists of a sludge holding tank, thickening facilities, a sludge dewatering building, and a centrifuge press.

In addition to the Ballyjamesduff plant reservoir, the network is further served by Kilnaleck and Cornaseer reservoirs. Ballyjamesduff RWSS also provides treated water to Castlerahan, Mountnugent, and the Munterconnaught Group Water Scheme.

The audit of Ballyjamesduff WTP was carried out to assess the performance of Irish Water in providing clean and wholesome drinking water.

> Supply Zones Areas Inspected

All treatment processes were inspected on-site. The raw water abstraction point and the treated water reservoirs served by the Ballyjamesduff WTP were not inspected as part of the audit.



1. Source Protection

	Answer
1.1	Is the abstraction source(s) adequately protected against contamination?
	No
Comment	
<p>1. Raw water abstraction for Ballyjamesduff WTP is from the nearby Nadreegeel Lough. Irish Water and Cavan County Council stated that it is not feasible to fence off the lake source to prevent livestock access due to the size of the lake.</p> <p>2. It could not be confirmed by Irish Water when the surrounding landowners had last been formally written to about the presence of a drinking water supply in proximity to their lands and their obligations under the <i>European Union (Good Agricultural Practice for Protection of Waters) Regulations 2022, as amended</i>.</p>	



2. Treatment Process Chemicals

	Answer
2.1 Are treatment process chemicals appropriately managed and stored?	No
Comment	
Sodium hypochlorite 25L drums kept on site for distribution to network reservoirs were not stored appropriately on bunds.	



3. Management and Control

3.1

Are suitable plant shutdowns/inhibits in place to prevent the entry of inadequately treated water entering the distribution network?

Answer

No

Comment

1. In general the plant inhibits are set at suitable levels to prevent the entry of inadequately treated water into the network.
2. The exception noted by inspectors following the audit was that an automatic plant shutdown was in place for a final water turbidity reading of 0.9 NTU for 900 seconds (15 minutes). In accordance with Table 5.3 in the *EPA Water Treatment Manual: Filtration*, an automatic plant shutdown should be in place to protect the regulatory limit should the turbidity rise above 1 NTU in the final treated water for 3 minutes.



4. Site Specific Issues

	Answer
4.1 Is there suitable storage capacity on the supply to cope with periods of planned or reactive plant shutdowns?	No
Comment	
<p>1. There is an on-site reservoir with a storage capacity of 1770m³ at the Ballyjamesduff WTP, supplying a population of circa 4,663 and three further reservoirs at Kilnaleck and Cornaseer. A maximum of six hours' storage is available at the Ballyjamesduff WTP in the event of a plant shutdown before areas of the supply begin to run out of water. This poses a risk to the continuity of supply in the event of critical process shutdowns being activated.</p> <p>2. Cavan County Council and Irish Water representatives stated that a Drinking Water Safety Plan has been developed for the Ballyjamesduff R.W.S.S, however are uncertain if treated water storage capacity has been identified as a potential hazard.</p>	

Recommendations

Subject	Ballyjamesduff Audit Recommendations 01/12/2022	Due Date	16/01/2023
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 liaise with Cavan County Council to ensure that all farmers operating in the source catchment area are written to and informed of the drinking water source in accordance with the <i>European Union (Good Agricultural Practice for Protection of Waters) Regulations 2022, as amended</i>.2. Irish Water should ensure that chemicals are stored in appropriately bunded areas capable of containing at least 100% of the volume of chemicals stored therein.3. Irish Water should ensure that an appropriate plant inhibit controlled by the regulatory 1 NTU turbidity on final treated water is provided at Ballyjamesduff WTP, as detailed in the <i>EPA Water Treatment Manual: Filtration</i>.4. Irish Water should consider the provision of additional treated water storage to enhance the resilience of the Ballyjamesduff RWSS. <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 16/01/2022 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>		