

# Site Visit Report

Under the *European Union (Drinking Water) Regulations 2023*, the Environmental Protection Agency (EPA) is the supervisory authority in relation to Uisce Éireann and its role in the provision of public drinking water supplies. This audit was carried out to assess the performance of Uisce Éireann in providing clean and wholesome water to the public water supply named below.

The audit process is a sample of the performance of a water treatment plant and public water supply on a given date.

Water Supply Zone	
Name of Installation	Ballina-Wherrew
Organisation	Uisce Éireann
Scheme Code	2200PUB1003
County	Mayo
Site Visit Reference No.	SV30686

Report Detail	
Issue Date	18/12/2024
Prepared By	Veronica Boland

Site Visit Detail			
Date Of Inspection	15/11/2024	Announced	Yes
Time In	11:00	Time Out	13:25
EPA Inspector(s)	Veronica Boland		
Additional Visitors			
Company Personnel	Uisce Éireann: Brian Conmy, Thomas Gibbons. Mayo County Council (working in partnership with Uisce Éireann): Seán Keane, Eddie Munnelly.		

## > Summary of Key Findings

1. A chemical spill occurred at the Ballina-Wherrew water treatment plant (WTP) between 13/11/2024 and 14/11/2024, and resulted in aluminium sulphate discharging to Lough Conn. The audit confirmed that the spillage occurred due to error when filling the day storage tank from the bulk storage tank.
2. Trend data reviewed at the audit confirmed that drinking water quality entering the Ballina-Wherrew public water supply was not impacted during or as a result of the incident.

## > Introduction

The Ballina-Wherrew Public Water Supply (PWS) is sourced from Lough Conn. The water treatment plant (WTP) serves a population of 3,040 people and produces approximately 4,000 m<sup>3</sup>/day of treated water. Treatment includes coagulation, flocculation, clarification, rapid gravity filtration and chlorination.

The audit was carried out in response to Uisce Éireann's notification to the EPA of a chemical spill at the plant which occurred from 13/11/2024 to 14/11/2024.

## > Supply Zones Areas Inspected

The areas inspected focused on those relating to the incident which included the chemical storage facilities, the raw water intake and the WTP discharge point (sump) and foreshore area of Lough Conn impacted by the spill.



1.1

Was the incident suitably alerted to the plant operators, escalated and managed in order to maintain water quality and protect public health?

Answer

Yes

### Comment

1. On 14/11/2024 Uisce Éireann notified the EPA, Inland Fisheries Ireland (IFI), National Parks and Wildlife Service (NPWS), and the Environmental Section of Mayo County Council (MCC) of a chemical spill which occurred at the Ballina-Wherrew water treatment plant (WTP) from 13/11/2024 to 14/11/2024. This resulted in approximately 6,000 litres of aluminium sulphate being discharged to Lough Conn. The audit confirmed that the incident did not affect the quality of drinking water entering the Ballina-Wherrew public water supply.

### 2. Cause of incident:

- Aluminium sulphate is stored in a 40,000 litre external bunded Bulk Storage Tank (BST) at the WTP. Aluminium sulphate is pumped from the BST into a day tank with a volume of 1,000 litres.
- On 13/11/2024 at approximately 15:30 hours, operational staff activated the transfer pump to fill the day tank from the BST. As the pump was filling the day tank, operational staff attended to other duties and did not shut off the flow from the BST to the day tank.
- This led to an overflow from the 1,000 litre day tank into a 1,200 litre bund, spilling aluminium sulphate into a channel on the floor that flows under the WTP site to a sump located approximately 30 metres from the shoreline of Lough Conn.

### 3. Action taken:

- On 14/11/2024 at 08:00 hours Mayo County Council staff arrived on site where they observed the spillage. The transfer pump was immediately turned off.
- Uisce Éireann, IFI, EPA and NPWS were informed of the incident.
- Approximately 5,000 litres of the spilled aluminium sulphate was recovered from the channel into 5 IBCs. Aluminium sulphate deposits in the sump and along the foreshore of Lough Conn were pumped out and transferred to the 3 WTP sludge lagoons located off-site.
- A contractor attended the site on 14/11/2024 and 15/11/2024 to assist in the clean-up of the aluminium sulphate spill, installed containment measures and undertook water sampling in Lough Conn.
- An Uisce Éireann ecologist attended and undertook an ecological assessment and carried out kick sampling.
- Following the audit, Uisce Éireann confirmed that a timer was installed on the transfer pump (as a temporary measure) so that the tank will fill for a period of 15 minutes and then automatically switch off.



## 2. Treatment Process Chemicals

2.1

Are treatment process chemicals appropriately managed and stored?

**Answer**

No

**Comment**

1. The transfer of aluminium sulphate from the bulk tank to the day tank is by manual operation and prone to human error. A safety system must be installed in addition to the temporary measure of a timer on the transfer pump to prevent a spill from happening again.

2. There is no level sensor on the bulk storage tank nor on the day tank and there are no alarms on either tank nor the bund area.

3. Staff stated at the audit that there is a standard operating procedure (SOP) for chemical management, however, this SOP was not available for inspection at the audit.



### 3. Management and Control

3.1

Are instrument calibrations within date?

**Answer**

No

**Comment**

1. The calibration stickers for the turbidity (raw, filters and final water) monitors and the CL17 chlorine dosing monitor (CL001) indicated that the next calibration due date was August 2024. Staff advised that they were awaiting the external contractors to calibrate the monitors.

2. The issue of delays having occurred in calibrating turbidity monitoring instrumentation was previously raised in an EPA audit carried out at Ballina-Wherrew WTP on 21/07/2023.

## Recommendations

<b>Subject</b>	Ballina-Wherrew Aluminium Discharge Audit	<b>Due Date</b>	18/01/2025
<b>Action Text</b>	<p><b>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.</b></p> <ol style="list-style-type: none"> <li>1. Install appropriate level sensors and dial out alarms on the chemical bulk storage tanks and day tank.</li> <li>2. Ensure that a Standard Operating Procedure (SOP) for chemical use on-site (to include acceptance of deliveries, chemical transfer and chemical management) is available at the Ballina-Wherrew water treatment plant and that operators receive and implement appropriate training in relation to the use of chemicals on site.</li> <li>3. Provide to the EPA details of the investigation into the impact of the aluminium sulphate spill including sample results.</li> <li>4. Ensure all plant monitors and equipment are calibrated and serviced in accordance with manufacturers instructions, and maintain records of calibration and service dates and frequency.</li> </ol> <p><b>Actions required by Uisce Éireann</b></p> <p>During the audit, Uisce Éireann representatives were advised of the audit findings and that action must be taken by Uisce Éireann to address the issues raised.</p> <p>Uisce Éireann should submit a report to the EPA on or before 18/01/2024 detailing the actions taken and planned, with timescales, to close out the above recommendations.</p> <p>The EPA advises that the findings and recommendations from this audit report should, where relevant, be addressed at other public water supplies.</p>		