

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	East Waterford Water Supply Scheme
Organisation	Uisce Éireann
Scheme Code	3800PUB1110
County	Waterford
Site Visit Reference No.	SV32948

Report Detail	
Issue Date	10/11/2025
Prepared By	Sean O'Leary

Site Visit Detail			
Date Of Inspection	20/08/2025	Announced	Yes
Time In	11:00	Time Out	14:30
EPA Inspector(s)	Regina Campbell Sean O'Leary		
Additional Visitors	HSÉ: Siobhan Murphy, Larry O'Connor		
Company Personnel	Uisce Éireann: Tommy Power, Melissa Devane, Siobhán Clifford and Maura Phelan. Waterford City and County Council (working in partnership with Uisce Éireann): Michael Quinn.		

> Summary of Key Findings

1. An incident associated with the alum dosing system occurred at East Waterford (Adamstown WTP) water treatment plant on 20/07/25 and 21/07/25 and went unreported for 21 days before the EPA and HSE were notified by Uisce Éireann on 11/08/25. The incident was not suitably escalated and managed in order to maintain water quality at East Waterford Water Supply Scheme water treatment plant and protect public health.
2. The EPA were notified on 11/08/2025, 12/08/2025 and the 21/08/2025 of five aluminium failures of the drinking water parametric value of 200 ug/l (sample results were 226 ug/l, 356 ug/l, 646 ug/l, 946 ug/l and 1,967 ug/l) and three exceedances of the low pH drinking water parametric value of 6.5 (sample results were 5.86, 6.13 and 6.32) in samples taken on the 22/07/25, 23/07/25 and 25/07/25 at several different locations in the East Waterford supply. These exceedances were most likely due to the alum dosing incident that occurred at the East Waterford Water Treatment Plant on 20/07/25 and 21/07/25.
3. The audit found that the protozoal barrier was not compromised during the incident as shown by filter turbidity trends viewed. Disinfection levels remained adequate during the incident as shown by chlorine trends viewed during the audit and chlorine readings in the network from the 20/07/2025 - 26/07/2025.
4. The audit found significant failings in management oversight, operational control and responsiveness by Uisce Éireann at East Waterford water treatment plant, in relation to management and escalation of this incident.

> Introduction

The East Waterford Water Supply Scheme (WSS) supplies an average of 31,472 m³/day of water, serving a population of 71,622 (EDEN 2025).

The sources of the supply are the Ballyshunnock impoundment, River Clodiagh and River Mahon with relative proportions of each source varying throughout the year. On the day of the audit, the sources in use were a blend of River Clodiagh and River Mahon.

Treatment consists of coagulation, flocculation, clarification, rapid gravity filtration, pH correction, chlorination, fluoridation and sludge treatment.

This audit was carried out in response to the notification by Uisce Éireann to the EPA on 11/08/25 and 12/08/2025 of aluminium and pH failures and the notification on 18/08/25 of an incident with high alum dosing.

> Supply Zones Areas Inspected

The audit consisted of a review of the incident response to the alum dosing incident and review of water quality trends and alarm records.



1. Incident Management

1.1

	Answer
Was the incident suitably alerted to the plant operators, escalated and managed in order to maintain water quality and protect public health?	No
Comment	
<p>1. The EPA were notified on 11/08/2025, 12/08/2025 and the 21/08/2025 of five aluminium failures of the drinking water parametric value of 200 ug/l (sample results were 226 ug/l, 356 ug/l, 646 ug/l, 946 ug/l and 1,967 ug/l) and three exceedances of the low pH drinking water parametric value of 6.5 (sample results were 5.86, 6.13 and 6.32) in samples taken on the 22/07/25, 23/07/25 and 25/07/25 at several different locations in the East Waterford supply. Further to this on the 18/08/25 the EPA was notified by Uisce Éireann of an alum (coagulant) dosing incident at Adamstown water treatment plant which occurred on 20/07/25 and 21/07/2025. The HSE was notified on 11/08/2025 of the aluminium exceedance that occurred on 21/07/2025 at the plant.</p> <p>2. The high alum dosing flow alarm was activated at 19:20 on Sunday the 20/07/2025. A second high alum dosing flow alarm was received at 19:43. Neither alarms were correctly responded to by operational staff. These alarms were triggered by deteriorating raw water quality caused by heavy rain. There was a change of shift of operational staff at 20:00. At approximately 21:00 two alarms were received from the onsite automatic dosing management system: Streaming Current Monitor (SCM). The alarms were not responded to appropriately by operational staff. Throughout the night water quality continued to disimprove leading to an increase in alum dosing levels and subsequent low pH. At 23.30 aluminium levels in the final water were recorded by operational staff as above the test range of the on site monitor. There was a failure by operational staff to escalate the multiple process alarms that activated in response to this incident. The poor raw water quality issues were compounded by the abstraction of raw water from the Ballyshunnock impoundment, where an existing algal bloom was occurring.</p> <p>3. The plant operator initiated a plant shutdown at 03:36 and the plant was restarted at 04:30. The operator informed the plant manager by phone at 04:50 on the 21/07/2025 of the ongoing incident. Following review of the plant trends the plant operator was instructed to shutdown the plant until attendance by the plant manager and other Uisce Éireann staff. Actions taken by Uisce Éireann staff in response to the incident included the following: coagulant dosing was switched to manual dosing, water abstraction from the Ballyshunnock impoundment was ceased, chlorine dosing was increased to improve chlorine residuals and lime dosing was also increased to improve pH levels.</p> <p>4. Over the course of the incident aluminium levels in the final water were over the normal range for at least five and half hours. These levels are monitored manually by operational staff. pH levels were below the lower parametric value of 6.50 in the final water for approximately 39 hours.</p> <p>5. The audit found that the protozoal barrier was not compromised during the incident as shown by filter turbidity trends viewed. Disinfection levels remained adequate during the incident as shown by chlorine trends viewed during the audit and chlorine readings in the network from the 20/07/2025 - 26/07/2025.</p> <p>6. The East Waterford water treatment plant is monitored remotely by Uisce Éireann's National Operations Management Centre (NOMC). At the audit Uisce Éireann staff confirmed that the NOMC had notified it of pH alarm exceedances via email on the morning of the 21/07/2025. No follow up contact occurred between plant staff and the NOMC to establish reasons for the high pH alarms or corrective actions that were taken in response to the pH alarm exceedances.</p> <p>7. It was found that there is no Standard Operation Procedure in place for operational staff on how to respond to specific alarms at the Water treatment plant.</p> <p>8. There are no shutdowns enabled on the SCM in relation to coagulant dosing. There is no continuous aluminum monitor on final water and there are no pH shutdowns on the final water.</p> <p>9. The audit found that there was a failure of Uisce Éireann operational staff to promptly notify the incident to management during the night of the 20/07/25 and early hours of 21/07/25. There was a failure of Uisce Éireann to promptly escalate the incident to the HSE and the EPA. The incident came to light when aluminium and pH exceedances were notified to the EPA and HSE on the 11/08/2025 (as per point No.1 above).</p>	

Subject	Audit Recommendations	Due Date	10/12/2025
Action Text	<p>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.</p> <ol style="list-style-type: none"> 1. Ensure there is adequately trained operational staff and management oversight of operations at Adamstown Water Treatment Plant at all times. 2. Ensure there is a documented incident response procedure in place at the plant, and that plant operators and management are fully trained on responding to incidents, to ensure that incidents affecting drinking water quality are suitably escalated and managed in order to maintain water quality and protect public health. 3. Put a documented procedure in place for responding to and escalating all alarms generated at the WTP. The procedure should clearly document the corrective actions and set out delegation of responsibilities for operational and relief staff. Ensure all staff are trained in the procedure. 4. Install automatic shutdown at the plant in the event that critical plant alarms are not resolved by plant operators in a timely manner, as the ultimate failsafe to prevent inadequately treated water being supplied to consumers. 5. a) If feasible install appropriate shutdowns for (i) high and low pH levels in the final water (ii) high alum coagulant dosing, and b) progress the installation of an integrated flow switch for the Coagsense controller sensor. 6. Review the future use of Ballyshunnock impoundment as a source for the plant taking into account the water quality of the lake at various times during the year. 7. Ensure the roles and responsibilities of the NOMC reviewing trends and escalating incidents at East Waterford water treatment plant are clearly documented and understood by both NOMC staff and water treatment plant staff. <p>Actions required by Uisce Éireann</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 10/12/2025 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>		