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	Westport PWS
Organisation	Uisce Éireann
Scheme Code	2200PUB1025
County	Mayo
Site Visit Reference No.	SV34885

Report Detail

Issue Date	02/09/2026
Prepared By	Veronica Boland

Site Visit Detail

Date Of Inspection	28/07/2026	**Announced**	Yes
Time In	10:30	**Time Out**	12:40
EPA Inspector(s) **Additional Visitors**	Veronica Boland Mary Grimes		
Company Personnel	Uisce Éireann: Declan Keane, Siobhán Sheridan, Paul Thomas, Shauna Lanagan.		

Summary of Key Findings

1. The recommendations of the previous audit carried out in 2024 regarding network chlorine monitoring and management of chemicals on-site had not yet been implemented at the Westport Water Treatment Plant (WTP).

Uisce Éireann should submit a report to the EPA on or before the 02/10/2026 detailing the actions taken and planned, with timescales, to close out the 10 recommendations in this audit report.

Introduction

The Westport public water supply (Westport PWS) is supplied by Knappaghbeg water treatment plant (WTP) operates 24 hours/day, produces an average of 2,021m3/day of treated water to a population of approximately 1,298 people. Raw water is abstracted from Lough Moher. The treatment comprises pH adjustment using soda ash, coagulation, flocculation, clarification, rapid gravity filtration, final pH adjustment, chlorination and fluoridation. During periods of high demand or dry weather the supply is supplemented with water from the Lough Mask Water Treatment Plant from the Carrowbaun reservoir.

The audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water with a focus on operations at the water treatment plant (WTP).

Supply Zones Areas Inspected

The site areas inspected during the audit included:

- WTP treatment processes.

1. Filtration

		Answer
1.1	Are the filters designed and managed in accordance with EPA guidance?	No

Comment

1. There were two rapid gravity filters (RGFs) at the Knappaghbeg WTP. Uisce Éireann representative stated at the audit that the depth of the media in the RGFs was approximately 900 mm. The *EPA Water Treatment Manual: Filtration* recommends a minimum media depth of 1,000 mm.
2. There are two plant operators at the Knappaghbeg WTP. Both operators measure the depth of the media in two different ways, one from the freeboard to the top of the filter media bed, the other from the bottom of the filter to the top of the filter media.
3. The previous EPA audit recommended that media depth marker gauges be installed in the RGFs. Prior to this audit Uisce Éireann stated that the media depth markers were on-site but had not been installed. At the audit, the depth markers were still not installed. These should be installed to ensure consistency in the measuring of the filter media depth.
4. Staff could not advise on the filter media integrity nor when the last time filter media coring was undertaken. The *EPA Water Treatment Manual: Filtration* recommends that media coring be carried out twice per annum and filter media integrity be undertaken as required if filter media is greater than 5 years old.

Recommendations:

1. Ensure that: (i) filter media depth is at a minimum of 1 metre operating depth, and (ii) a filter media depth gauge is installed on each filter.
2. Conduct regular operational checks of the rapid gravity filters at the treatment plant at specified intervals as per '*Regular operational checks'* in the *EPA Treatment Manual: Filtration* and (ii) maintain records as per *'Records Management'* in the *EPA Water Treatment Manual: Filtration* and ensure that these records are available on-site.

2. Management and Control

		Answer
2.1	Have the recommendations from the previous EPA audit been satisfactorily addressed?	No

Comment

1. There was crystalized material contained in the wooden bund surrounding the pipework of the PAC day tank. This wooden bund was on top of a drain grate, and the drain grate had yellow orange discolouration indicating that PAC material may have spilled over into this area in the past. At the previous audit, operational staff outlined that drains in the chemical room lead to the sludge bleed tank beside the river.
2. The 'chemical room' where the poly aluminium chloride, soda ash and polyelectrolyte were stored and associated pumps was still not bunded.
3. The sodium hypochlorite bulk delivery fill-point (located on outside of the building leading into the chlorine dosing room) was still not properly protected from overspill during filling.
4. Small containers of sodium hypochlorite in the chlorine dosing room were not stored in a bunded area.
5. Given the location of the Knappaghbeg WTP across from the Owenwee river, chemical storage management including bunding at the WTP should be progressed.

Recommendations:

3. The crystalized material in the bund tray in the PAC day tank should be removed and disposed of appropriately. The fill point bund trays and the bulk storage areas should be kept clean with capacity available to contain any minor spills during delivery.

4. Review all chemical delivery and storage arrangements at the treatment plant including fill points to prevent the potential for chemical spills, or discharge offsite. Refer to EPA guidance document “IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities”.

3. Operational Audits 2026

		Answer
3.1	Is there a suitable monitoring frequency for residual chlorine in the network with records available?	No

Comment

1. The previous EPA audit recommended that network chlorine residual monitoring be undertaken throughout the network several times a week. Uisce Éireann had stated in response to the previous audit that this had been undertaken.
2. Network chlorine residual monitoring records submitted to the EPA prior to this audit only referenced chlorine residual levels at network reservoirs. In addition, monitoring was undertaken only once weekly, and in some instances once monthly, at the various reservoirs and did not include chlorine residual monitoring from locations across the wider Westport PWS distribution network. At the audit, Uisce Éireann representatives could not advise whether any other network monitoring is undertaken.

Recommendation:

5. Submit to the EPA two months of network chlorine residual monitoring results for July and August 2026 that includes the network extremities.

		Answer
3.2	Is there a documented alarm response procedure?	No

Comment

1. The one page UÉ incident escalation document was displayed at the WTP. However, Uisce Éireann confirmed at the audit that there was no site specific documented alarm response procedure detailing what response to be made in response to alarms generated at the WTP including specific steps to be taken by operators and other responders.

Recommendation:

6. Ensure that (i) a formal documented site-specific alarm response procedure is in place at the treatment plant and (ii) provide training to relevant staff (including relief and temporary staff) on the requirements of the alarm response procedure.

		Answer
3.3	Did process trends indicate satisfactory water treatment plant performance?	Not Applicable

Comment

1. The 'Treated Water' turbidity monitor is located on the inlet of the clear water tank (CWT) and is configured to initiate a plant shutdown at a turbidity level of 0.3 NTU for 3 minutes.
2. The 'Final Water' turbidity monitor is located on the outlet of the CWT and is configured to initiate a plant shutdown at a turbidity level of 0.8 NTU for 3 minutes.
3. Pre-audit turbidity trend data submitted to the EPA for the period 25 June to 20 July 2026 showed multiple spikes in the 'Treated Water' turbidity exceeding 0.5 NTU.
4. Uisce Éireann stated in the pre-audit information that turbidity spikes were associated with the opening of valves on the Carrowbaun watermain to supply the CWT at Westport WTP during periods of low production and brief flow reversals under these operating conditions can cause issues with the turbidity monitors.
5. During the audit, it was difficult to fully interrogate the plant HMI trend data. In addition, access to the countywide SCADA system was significantly hindered by a slow internet connection at the plant. Consequently, EPA inspectors were unable to verify or further investigate the turbidity trend data and associated alarm and shutdown events records.

Recommendation:

7. Investigate and report on the cause of 'Treated Water' turbidity spikes exceeding 0.5 NTU and verify that the associated turbidity monitor, alarms and plant shutdown controls operate as intended under all operating conditions, including periods of low production and flow reversal.

		Answer
3.4	Are plant performance trends accessible by operational staff at the water treatment plant?	Yes

Comment

1. Plant performance trends are available on the plant HMI at the WTP. At the audit, the EPA inspector noted that the turbidity trend scaling on the HMI was different for all the turbidity monitors, for example, the turbidity trend scaling for RGF no. 1 was different to the scaling for RGF no. 2. It is important that all the turbidity trends, where possible, use the same scaling as a reference point to enable an accurate visual assessment of the turbidity trends so that plant operators can make informed decisions based on the trend data presented on their HMI screen.
2. Staff could not advise if the alarms at the WTP were triggered from the monitors, HMI or local/countywide SCADA.

Recommendation:

8. Investigate the turbidity trend scaling on the plant HMI and ensure that all the scaling is aligned to give an accurate depiction of the performance trend data.

9. Clarify whether alarms/shutdowns are triggered from monitors, HMI or countywide SCADA and where alarms/inhibits are triggered from the plant HMI that they are generated correctly.

		Answer
3.5	Are plant performance trends accessible remotely?	Yes

Comment

1. The plant operator can dial in remotely from his mobile phone to the plant HMI to obtain live readings from the plant including chlorine residuals and turbidity levels.
2. The countywide SCADA for Knappaghbeg WTP includes trend data for treated water turbidity and chlorine residual. It does not include plant performance trends for the rapid gravity filters nor for final water turbidity and supervisory staff do not have access to all plant performance trends.

Recommendation:

10. Ensure that all treatment plant process trends are transmitted to the countywide SCADA to enable appropriate supervisory oversight.

Recommendations

Actions required by Uisce Éireann

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.

Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the recommendations raised in this report without delay.

Response to Audit Report

Uisce Éireann should submit a report to the EPA on or before the date specified in the Summary of Key Findings detailing the actions taken and planned, with timescales, to close out the recommendations in this audit report.

The EPA advises that the findings and recommendations from this report should, where relevant, be addressed at other public water supplies.

Publication of Reports

Audit reports are published to the EPA's website, www.epa.ie, typically 1 month after the audit report is issued to Uisce Éireann.