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	Achill RWSS
Organisation	Uisce Éireann
Scheme Code	2200PUB1001
County	Mayo
Site Visit Reference No.	SV34884

Report Detail

Issue Date	16/10/2026
Prepared By	Veronica Boland

Site Visit Detail

Date Of Inspection	15/09/2026	**Announced**	No
Time In	10:30	**Time Out**	13:40
EPA Inspector(s)	Veronica Boland Mary Grimes		
Additional Visitors	Donal Howley		
Company Personnel	Uisce Éireann: Michael Darragh Sweeney, Paraic Molloy, Ann Browne, Siobhán Sheridan, Róisín Cellarius, Paul Thomas.		

Summary of Key Findings

1. A Boil Water Notice was issued on the Achill Regional Water Supply Scheme (RWSS) following operational issues at the water treatment plant that reduced treated water production capacity during a period of increased demand. The reduction in capacity was associated with a blockage affecting the raw water inlet pipeline to the water treatment plant (WTP) and reduced clarifier performance linked to elevated raw water temperatures.

Uisce Éireann should submit a report to the EPA on or before the 20/11/2026 detailing the actions taken and planned, with timescales, to close out the 7 recommendations in this audit report.

Introduction

The Achill public water supply (Achill RWSS) produces approximately 2,048 m3 of treated water and serves a population of 2,557 people on the island of Achill and Achill Sound, Polranny and Corraun on the Achill mainland. The public supply also provides treated water to approximately 440 people served by 10 public group water schemes on the island.

The raw water abstraction is from Corrymore Lake and is gravity fed to the inlet of the Achill WTP. The water treatment comprises of screening, aeration to remove naturally occurring iron from the raw water, pH correction, coagulation, flocculation, clarification, filtration across four rapid gravity filters, disinfection with sodium hypochlorite, post treatment pH correction, fluoridation and orthophosphate dosing. During periods of high water demand, 80% of the incoming raw water goes through these treatment processes, while the remaining 20% of incoming flow is directed to a separate treatment stream with two UV units (a supplementary protozoal barrier treatment) then directed to the clear water tank for disinfection.

There are 18 reservoirs on the distribution network and two have disinfection booster stations (at Bunacurry and Polranny Reservoirs).

The focus of the audit was on operational management at the WTP and on the Boil Water Notice that was in place on the Achill RWSS from 14th July to 8th August 2026.

Supply Zones Areas Inspected

- Achill WTP
- Raw water abstraction at Corrymore lake.

1. Filtration

		Answer
1.1	Are the filters designed and managed in accordance with EPA guidance?	Yes

Comment

1. There are 4 dual media rapid gravity filters at the Achill WTP. Filter media was refurbished in 2025 and the media depths in all of the 4 RGFs is 1.2m.
2. There are inhibits on each of the filters with shutdown setpoints of 0.3 NTU at 15 minutes which triggers a backwash.
3. Turbidity readings observed on the day were satisfactory: RGF 1 (0.052 NTU); RGF 2 (0.06 NTU); RGF 3 (0.05 NTU); RGF 4 (0.070 NTU) and Final water (0.113 NTU).

2. Management and Control

		Answer
2.1	Is the water treatment plant resilient enough to cope with significant variations in raw water quality or demand?	No

Comment

1. A Boil Water Notice was in place for the period 14th July to 8th August 2026. Uisce Éireann advised that prior to implementing the Boil Water Notice:
- there had been a reduced flow into the WTP;
- divers had inspected the abstraction area of the lake as part of Uisce Éireann's investigations into the reduced flow and did not identify any blockages;
- a temporary pump was installed and an increase in abstraction was achieved, however there were still issues with treating the water quickly enough to meet the supply demand, which was high due to the summer tourist season;
- elevated raw water temperatures contributed to a rising sludge blanket in one of the two clarifiers at the WTP, requiring that clarifier to enter a run-to-waste sequence on a more frequent basis. This reduced clarified-water availability for further downstream treatment and constrained water production at the WTP;
- the quantity of water that could be treated at the plant was less than the supply demand (and the levels in the reservoirs were dropping;
- following consultation with the HSE, Uisce Éireann put a Boil Water Notice in place, to allow for a greater quantity of water to pass through the WTP to meet the supply demand.

2. Following a reduction in water supply demand and a satisfactory period of operation of the WTP, and with the agreement of the HSE, the Boil Water Notice was rescinded on 8th August 2026.

3. Uisce Éireann advised that to mitigate against the need for similar future Boil Water Notices:

- Investigations are ongoing into the cause of reduced flow from the raw water inlet pipe into the WTP. For example, the hydraulic pressure associated with a valve that was installed on the inlet to the WTP a few years ago to prevent flooding of the plant in the event of plant shut down is being investigated as a possible cause.
- There are plans for the provision of a third clarifier to improve treatment resilience at the WTP during periods of high demand and elevated raw water temperatures.

Recommendations:

1. Investigate the cause of the reduced flow of raw water to the WTP and implement measures to ensure that flow of raw water to the WTP is controlled in such a manner that provides enough flow to meet demand all year around and prevents potential flooding of the WTP during power outage or plant shutdown.

2. Progress the upgrade of the clarification treatment system to improve resilience of the WTP.

		Answer
2.2	Have the recommendations from the previous EPA audit been satisfactorily addressed?	Yes

Comment

1. The previous EPA audit carried out in 2024 recommended the provision of additional treated water storage to enhance the resilience and security of the Achill PWS. In addition to the existing on-site final water reservoir with a capacity of approximately 469m3, a new 'Clear Water Tank' with a capacity of approximately 269m3 has been installed at the Achill WTP.
2. A permanent generator has been installed at the WTP and automatically switches on after 30 seconds when a power outage occurs at the WTP.

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. Pre-audit information and records reviewed on the day of audit indicated a total of 18 chlorine residual measurements for the month of August were taken in the Achill RWSS network. However, the EPA inspector could not verify that chlorine residual monitoring is undertaken throughout the network several times per week as there were no specific dates recorded of when the measurements were carried out in the network. The issue of residual chlorine monitoring frequency has been raised in the previous two EPA audits.
2. In addition to primary disinfection at the WTP via chlorination, the Achill PWS also includes two network booster chlorination stations which are manually adjusted by operational staff as required. Review of treatment plant records during the audit confirmed that chlorine dosing at the WTP was increased during the period that the boil water notice was in place and remained elevated for several days following the lifting of the notice. When chlorination is adjusted during operational events such as treatment process outages or boil water notices, it is important that any corresponding review of booster chlorination settings is documented to demonstrate coordinated management of the overall disinfection system.

Recommendations:

3. Carry out monitoring of residual chlorine several (two to three) times per week at different points of the network to include network extremities. Records of this monitoring should include the dates, locations and results of the monitoring and be used in network management.

4. Ensure that manual adjustments to chlorine dosing rates at the treatment plant and booster chlorination stations are documented and periodically reviewed. Records should include the date and time of the adjustment, the reason for the change, the person making the adjustment and the revised dosing setting.

		Answer
3.2	Is there a chlorine residual ≥0.1 mg/l throughout the network?	Yes

Comment

1. The records reviewed at the audit indicated that the chlorine residual was always greater than 0.1mg/l throughout the network.

		Answer
3.3	Are critical treatment processes operational?	Yes

Comment

1. During periods of high water demand, the two UV units at the Achill WTP act as a supplementary protozoal barrier treatment for 20% of incoming raw water. After UV treatment this 20% of total inlet flow is directed to the new Clear Water Tank for disinfection via chlorination.
2. The UV treatment system was not in operation on the day of the audit due to reduced water demand in the network.

		Answer
3.4	Are treatment processes examined during the audit operating satisfactorily?	No

Comment

1. **Coagulation Flocculation and Clarification (CFC) stage:** The EPA noted that in the flocculation tank there was localised accumulation of floating floc/scum material, including areas of greenish discolouration on the surface of the flocculation tank downstream of a mixer paddle. This may be indicative of sub-optimal hydraulic or flocculation conditions and could adversely affect treatment performance if not addressed.

Recommendation:

5. Investigate the cause of the localised accumulation of floating material observed within the flocculation tank. The investigation should include an assessment of hydraulic conditions, flocculation performance, and raw water characteristics, and any necessary corrective actions should be implemented to ensure effective treatment performance.

		Answer
3.5	Did process trends demonstrate that data was being captured and recorded at all times?	Yes

Comment

1. A review of plant performance trends indicated that data is captured and recorded at all times. However, the review indicated that the final water turbidity trend (monitor on outlet of reservoir) is not trended on the countywide SCADA which limits the supervisory overview of the WTP. An up-to-date schematic of all the plant treatment processes and locations of monitors, which was not available at the time of the audit, would be of assistance in such reviews/oversight.

Recommendation:

6. Uisce Éireann should ensure that: (i) the countywide SCADA includes all the plant performance trends, including the final water turbidity trend (outlet of reservoir) required to provide supervisory management oversight of the Achill PWS; and (ii) an up-to-date schematic identifying all treatment processes and locations of monitors is maintained.

4. Site Specific Issues

		Answer
4.1	Are the flow meters/monitors service or calibrated regularly?	No

Comment

1. While the monitors relating to water quality at the WTP are serviced and calibrated on a bi-annual rolling basis, Uisce Éireann advised that the flow meters/monitors are not serviced/calibrated.

Recommendation:

7. Ensure that the flow monitors at the WTP are serviced and calibrated on a regular basis and in accordance with manufacturers instructions.

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.