

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	Ceide Fields PWS
Organisation	Uisce Éireann
Scheme Code	2200PUB1037
County	Mayo
Site Visit Reference No.	SV32027

Report Detail	
Issue Date	26/09/2025
Prepared By	Veronica Boland

Site Visit Detail			
Date Of Inspection	05/09/2025	Announced	Yes
Time In	12:50	Time Out	13:45
EPA Inspector(s)	Veronica Boland		
Additional Visitors			
Company Personnel	Uisce Éireann: Thomas Gibbons, Joe McGuire, Siobhán Sheridan, Ann Browne. Mayo County Council (working in partnership with Uisce Éireann): Martin McGuire (Caretaker)		

> Summary of Key Findings

1. There is no protozoal barrier in place at the Céide Fields water treatment plant (WTP). Monthly monitoring for *Cryptosporidium* is carried out in accordance with the *Uisce Éireann's Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Water Supplies*.
2. The time delays in place for turbidity and high and low chlorine residual alarms do not meet the time delays recommended in the *EPA Water Treatment Manuals: Filtration and Disinfection*.

> Introduction

The Céide Fields Public Water Supply (PWS) produces approximately 31m³/day (EDEN figure) and supplies Behy and Glenurla Group Water Schemes (GWS) and the Céide Fields visitor centre. Raw water is abstracted from Glenurla well. Treatment consists of iron and manganese filtration and disinfection by chlorinating the supply with sodium hypochlorite. Treated water is stored in an underground reservoir with a capacity of approximately 93 m³.

The audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water with a focus on protozoal barriers.

> Supply Zones Areas Inspected

Treatment processes at the WTP were inspected.



1. Management and Control

1.1

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

Answer

No

Comment

1. The chlorine alarm delay setpoints were 900 seconds (15 minutes). The time delays in place do not meet the 5 minute time delay recommended in the *EPA Water Treatment Manual: Disinfection*.



2.1

Has UÉ identified the protozoal compliance log treatment requirement for the water treatment plant?

Answer

Yes

Comment

1. Uisce Éireann advised that a source and sanitary survey was carried out for Céide Fields PWS and is assigned 3 log credit requirement.

2.2

Is the log treatment requirement achieved at the water treatment plant?

Answer

No

Comment

1. There is no protozoal barrier in place at the plant, and consequently *Cryptosporidium* monitoring is carried out on a monthly basis in line with *Uisce Éireann's Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Water Supplies*.

2.3

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

Answer

No

Comment

1. Two iron and manganese removal filters were installed at the end of June 2025.
2. Staff were unable to provide details on the filter media type and filter media depths in the filtration vessels, the backwash triggers, return to service after backwash nor details on monitoring and maintenance of the filtration vessels. Training should be provided to WTP staff and relevant supervisory staff.
3. There is a pressure gauge on each filter but there is no turbidity monitor on each filter to verify they are operating satisfactorily.
4. Operational monitoring of the raw water is carried out on a monthly basis, however an operational monitoring programme is not in place for the final water to verify that the manganese and iron filters are effective and operating optimally.
5. At the audit, staff advised that a pipe leading from the building housing the filter vessels was the discharge pipe for the filter backwash. Any discharge from the treatment processes on-site should not impact the raw water source.

2.4

Are alarms and inhibits on each filter, on the combined filtered water and final water in accordance with the EPA Filtration Manual?

Answer

No

Comment

1. The final water turbidity plant shutdown (HiHi alarm) setpoint is 1 NTU with a time delay of 5 minutes. This is not in accordance with the *EPA Water Treatment Manual: Filtration* which recommends a maximum time delay of 3 minutes.

Recommendations

Subject	Céide Fields Audit 2025 Recommendations	Due Date	27/10/2025
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. Provide details on how any log deficit will be managed and continue Cryptosporidium monitoring in the Céide Fields PWS. 2. Provide details of the iron and manganese filters at the WTP to include: (i) media type and depth, filtration rate, operational controls and maintenance plan to include criteria for determining when future media replacement or replenishment should take place; and (ii) feasibility to install a turbidity monitor on each filter to inform treatment effectiveness and when to backwash. 3. Ensure that (i) training is provided to the WTP operator and relevant support/supervisory staff on the operation and management of the pressure filters at the WTP and (ii) details of the filter media service record are maintained at the water treatment plant.. 4. Ensure the supernatant from the backwash is not discharged near the raw water source. 5. Review and implement alarm and inhibit delay set points for turbidity and chlorine, in line with the <i>EPA Water Treatment Manuals: Filtration and Disinfection</i>. 6. Commence a routine operational monitoring programme on the treated water to include iron and manganese to verify treatment in place is effective. <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. Uisce Éireann should submit a report to the EPA on or before 27th October 2025 detailing the actions taken and planned, with timescales, to close out the above recommendations. The EPA advises that the findings and recommendations from this audit report should, where relevant, be addressed at other public water supplies.</p>		