

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 | Carlow Town |
| Organisation | Uisce Éireann |
| Scheme Code | 0100PUB1001 |
| County | Carlow |
| Site Visit Reference No. | SV31947 |

| Report Detail | |
|---------------|--------------|
| Issue Date | 01/05/2025 |
| Prepared By | Sean O'Leary |

| Site Visit Detail | | | |
|---------------------|---|-----------|-------|
| Date Of Inspection | 03/04/2025 | Announced | No |
| Time In | 12:00 | Time Out | 14:00 |
| EPA Inspector(s) | Sean O'Leary | | |
| Additional Visitors | | | |
| Company Personnel | Uisce Éireann: Denis McGrath, James Byrne, Niall Byrne, David Fleming and Billy Doyle | | |

> Summary of Key Findings

1. The audit found that Sion Water Treatment Plant (WTP) was operating and performing well in providing clean and wholesome water to the public supply.
2. The media depth of each filter could not be confirmed at the audit and there is no automatic filter backwash in place based on turbidity, headloss and time.

> Introduction

The Sion Water Treatment Plant is one of three water treatment plants that supply the Carlow Town public water supply (PWS). The Sion WTP supplies 3,200 m³/day serving a population of 17,775. Oak Park WTP and Rathvilly WTP also serve Carlow Town PWS.

The source for the plant is the River Burren. Treatment consists of coagulation, flocculation, clarification, rapid gravity filtration, pH correction, chlorination, fluoridation and sludge treatment. The audit was undertaken to assess Uisce Éireann's performance in producing clean and wholesome water focusing on the protozoal barriers in place at the treatment plant.

> Supply Zones Areas Inspected

The alum dosing system, pH adjustment system, flocculation system, clarification tanks, rapid gravity filters, and chlorination dosing system were inspected at the water treatment plant.



1.1

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

Answer

No

Comment

1. There are 4 rapid gravity filters in place at the Sion water treatment plant. The filters were refurbished in 2014 with new filter media added. Uisce Éireann advised that the filter media depth upon completion was 1100 -1300 mm. There are no media gauges installed in the filters to assist with monitoring of the depth of filter media at present. Uisce Éireann could not confirm the current media depth of any of the four rapid gravity filters.

2. Uisce Éireann confirmed that no maintenance has been undertaken on any of the filters since refurbishment in 2014.

3. Uisce Éireann confirmed there is no facility for automatic backwashing of the filters due to a small clearwater tank. Backwashing is not triggered by the turbidity alarm setpoints or triggered by headloss. Each filter is manually backwashed every day.

Recommendations

| Subject | Audit Recommendations | Due Date | 01/06/2025 |
|-------------|--|----------|------------|
| 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> <p>1. a) Undertake an assessment of the depth and condition of the media in each rapid gravity filter, b) ensure the depth of media in each filter is a minimum of 1m, c) install a media depth gauge in each filter d) install automatic backwashing of each filter based on turbidity, headloss, and time.</p> <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 01/06/2025 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> | | |