

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 | Swanlinbar PWS |
| Organisation | Uisce Éireann |
| Scheme Code | 0200PUB0117 |
| County | Cavan |
| Site Visit Reference No. | SV29603 |

| Report Detail | |
|--------------------|-----------------|
| Issue Date | 26/02/2024 |
| Prepared By | Veronica Boland |

| Site Visit Detail | | | |
|----------------------------|--|------------------|-------|
| Date Of Inspection | 07/02/2024 | Announced | Yes |
| Time In | 11:00 | Time Out | 13:25 |
| EPA Inspector(s) | Veronica Boland Ruth Barrington | | |
| Additional Visitors | | | |
| Company Personnel | Uisce Éireann: Fionnuala Bonner, Yvonne McMonagle. Cavan County Council (working in partnership with Uisce Éireann): Kevin O'Neill, Ciaran Fitzpatrick. | | |

> Summary of Key Findings

1. The alarm and shutdown setpoint time delay for final water turbidity at the WTP is not in accordance with the *EPA Drinking Water Manual: Filtration*.
2. The time delays in place for high and low chlorine do not meet the 5 minute time delay recommended in the *EPA Water Treatment Manual: Disinfection*.
3. There is no designated person in place to provide oversight for plant and trend data.

> Introduction

The Swanlinbar public water supply abstracts water from an artesian well, produces approximately 8 m³/hour of treated water and serves a population of approximately 319 (EDEN figure). The water treatment process comprises of pH correction, coagulation, flocculation, clarification, rapid gravity filtration, disinfection with sodium hypochlorite and final water pH correction.

The audit was undertaken to assess Uisce Éireann's (UÉ) performance in producing clean and wholesome water with a focus on the alarms and inhibits in place at the water treatment plant (WTP) and the procedures in place to ensure appropriate oversight of treatment processes.

> Supply Zones Areas Inspected

The audit included a site visit of the treatment processes at Swanlinbar WTP, interviews with staff, and reviews of online monitoring data and controls. The abstraction source and treated water reservoir were not visited as part of the audit.



1. Alarms, Inhibits & Oversight Audits 2024

| | | Answer |
|---|--|--------|
| 1.1 | Were online monitors within their calibration dates? | Yes |
| Comment | | |
| <p>1. The dates on the service calibration stickers on the chlorine dosing pumps (PU001 and PU002) had faded and were not legible. Calibration and maintenance is undertaken in-house on a scheduled basis. A folder of all calibration records is kept onsite and was viewed during the audit. All plant monitors and pumps should be clearly labelled to show the date of calibration and the next 'calibration due by' date.</p> | | |

| | | Answer |
|--|--|--------|
| 1.2 | Are suitable plant shutdowns/inhibits in place to prevent the entry of inadequately treated water entering the distribution network? | No |
| Comment | | |
| <p>1. The alarm and shutdown setpoint time delay of 60 minutes for final water turbidity at the WTP is not in accordance with <i>EPA Drinking Water Manual: Filtration</i>.</p> <p>2. The 30 minutes time delays in place for high and low chlorine do not meet the 5 minute time delay recommended in the <i>EPA Water Treatment Manual: Disinfection</i>.</p> <p>3. The clarifier pH alarm setpoints displayed on the HMI allow a large pH range of 5.0 to 9.0. Uisce Éireann stated at the audit that they will review the alarm setpoints against the optimum operating pH range at the plant.</p> | | |

| | | Answer |
|--|---|--------|
| 1.3 | Is there appropriate oversight of plant performance trends? | No |
| Comment | | |
| <p>1. Staff advised that oversight of plant performance trends was in place up to recently. The position has been vacated and there is no timeline on when this role will be filled.</p> | | |

Recommendations

| | | | |
|--------------------|--|-----------------|------------|
| Subject | Swanlinbar PWS Audit - Alarms, Inhibits & Oversight | Due Date | 25/03/2024 |
| 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. Review and implement alarm and shutdown time delay set points for turbidity, chlorine and clarifier pH in accordance with site specific requirements and the <i>EPA Water Treatment Manuals: Filtration and Disinfection</i>. Ensure operational staff are briefed on amendments to the alarm and inhibit settings.2. Clearly label all plant monitors and pumps to show the date of calibration and the next 'calibration due by' date. Provide regular oversight of plant performance data to assist in the operation of the water treatment plant.3. Provide regular oversight of plant performance data to assist in the operation of the water treatment plant. <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 25 March 2024 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> | | |