

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	Kells-Oldcastle
Organisation	Uisce Éireann
Scheme Code	2300PUB1011
County	Meath
Site Visit Reference No.	SV33422

Report Detail	
Issue Date	17/12/2025
Prepared By	Lisa Noone

Site Visit Detail			
Date Of Inspection	05/12/2025	Announced	Yes
Time In	10:30	Time Out	12:35
EPA Inspector(s)	Lisa Noone		
Additional Visitors			
Company Personnel	Uisce Éireann: Joseph Moran, Gerry Kelly Meath County Council (working in partnership with Uisce Éireann): James Connell		

> Summary of Key Findings

1. The audit found a lack of progress since the previous EPA audit in 2023 with regard to the Uisce Éireann Water Treatment Plant Upgrade Programme which was initially due for completion in 2024. Whilst a scope of works has been identified, it is now estimated that works will commence in 2026 for completion that year.
2. Alarms and inhibits in place at the Water Treatment Plant were not in accordance with EPA guidance.

> Introduction

Kells-Oldcastle Public Water Supply serves a population of 12,000 people and is supplied by Lough Bane and Clavin's Bridge Water Treatment Plants (WTPs). This audit focused specifically on Lough Bane WTP which sources its water from Lough Bane and produces approximately 4,000 m³/day. Treatment at the plant consists of pressure filtration, UV disinfection, chlorination and fluoridation.

The audit was undertaken to assess progress on outstanding recommendations from the EPA audit carried out in 2023, and to assess Uisce Éireann's performance in producing clean and wholesome water with a focus on the alarms and inhibits in place at the WTP and the procedures in place to ensure appropriate oversight of treatment processes.

> Supply Zones Areas Inspected

The raw water source at Lough Bane and all treatment processes at WTP were inspected as part of the audit



1. Management and Control

1.1

Have the recommendations from the previous EPA audit been satisfactorily addressed?

Answer

No

Comment

1. The main purpose of the audit was to assess progress made on outstanding recommendations from the EPA audit carried out on 31/08/2023, however, a number of recommendations remain open as follows:

2. Uisce Éireann were recommended to progress works at the WTP under the Uisce Éireann Water Treatment Plant Upgrade Programme. An Uisce Éireann update in Q4 2023 stated that works were estimated to be complete by Q2 2024. Subsequent Uisce Éireann updates referenced ongoing site assessments with no confirmed timeline for completion.

Upgrade works at the WTP had not commenced at the time of the audit, however a scope of works had been defined as follows:

- Primary disinfection will change from UV to chlorination, UV will remain as secondary disinfection;
- Live Ct validation will be put in place to ensure adequate primary disinfection;
- Filter bed media change;
- Optimisation of the filter backwashing process with run-to-waste; and
- TOC monitor to be installed.

Uisce Éireann stated that the above upgrade works are scheduled to commence in 2026.

2. Issues relating to alarm and inhibit set points were raised in the previous audit, however these have not been adequately addressed, see Section 2.2 of this report.

3. Uisce Éireann were recommended to review the chemical storage arrangements at the WTP, specifically noting that the fill points for the hydrofluorosilicic and sodium hypochlorite bulk tanks were not within bunded areas. Lough Bane, where the WTP is located, is one of three lakes that make up Lough Glass Special Area of Conservation (SAC). This recommendation has yet to be actioned by Uisce Éireann, and it could not be confirmed at the time of the audit if this was to be addressed under the planned upgrade works.



2. Alarms, Inhibits & Oversight Audits 2025

2.1

Is there a documented site specific incident response and incident escalation process?

Answer

No

Comment

1. The Uisce Éireann Incident Communication Response Guidance Form was displayed at the WTP.
2. The flowchart included a shutdown setpoint for final turbidity of 0.7NTU for 3 minutes, however this value did not reflect the inhibit in place on the day of the audit.
3. The flowchart did not include a setpoint for individual filter turbidity.

2.2

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

Answer

No

Comment

1. Automatic shutdown is enabled should final water turbidity exceed 1NTU for greater than 30 minutes. This time delay is considered too long to allow a timely and effective response by operational staff to ensure a turbidity of less than 1NTU prior to UV disinfection.
2. In a previous EPA audit in 2023, Uisce Éireann were requested to review the shutdown setpoint of 1NTU for 15 minutes in place at the time, and ensure that plant shutdown for final water turbidity is controlled by the regulatory 1NTU with a maximum delay of 3 minutes.
3. Uisce Éireann could not confirm at the audit if the 30 minute time delay was an input error, or if current plant configuration does not allow for a shorter time delay.

2.3

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

Answer

No

Comment

1. Plant performance trends are accessible by operational staff at the WTP via a HMI system and remotely via SCADA on operator's phones. However, the HMI system currently in place at the WTP has limited functionality compared to traditional SCADA systems. It was not feasible to isolate individual parameters on the current system or to review trends over long periods of time, and therefore carrying out a thorough assessment of performance trends was not possible.

2.4

Did plant performance trends demonstrate that data was being captured and recorded at all times?

Answer

No

Comment

1. Review of plant performance trends demonstrated that there were gaps and issues relating to the capturing and recording of data. Plant operators stated that power outages and loss of signal occur on a regular basis. These can cause issues with the WTP's variable speed drives resulting in the plant shutting down.

		Answer
2.5	Is there a documented procedure for responding to specific alarms?	No

		Answer
2.6	Are there appropriate procedures covering verification of alarms and inhibits status following maintenance or other work on site?	No

Recommendations

Subject	Kells Oldcastle (Lough Bane) Audit Recommendations	Due Date	22/01/2026
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 confirm the shutdown set point and time delays in place for final water turbidity. If plant configuration does not allow for the regulatory 1NTU to be met for a maximum delay of 3 minutes as detailed in the <i>EPA Water Treatment Manual: Disinfection</i>, and in line with the requirements for effective UV disinfection, Uisce Éireann should provide clarification and justification for a longer time delay. 2. Progress works at the WTP under the Uisce Éireann Water Treatment Plant Upgrade Programme, and confirm if review of chemical storage arrangements and power outages are included in the scope of works. 3. Ensure that the Uisce Éireann Incident Communication Response Guidance Form displayed at the WTP contains site specific information and relevant site specific trigger levels protecting critical processes at the WTP. 4. Examine the feasibility of upgrading the current HMI system at the WTP to a SCADA system to allow for full access to critical plant process information and trended performance data by operational staff. 5. Develop a procedure and deliver appropriate training (i) covering the verification of alarms/shutdowns status following maintenance or other works completed at the treatment plant, and (ii) for responding to and escalating all alarms generated at the water treatment plant. Both procedures should clearly document the corrective actions and set out delegation of responsibilities. <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 the above due date 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>		