

# 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     | Ashbourne/Ratoath |
| Organisation             | Uisce Éireann     |
| Scheme Code              | 2300PUB2042       |
| County                   | Meath             |
| Site Visit Reference No. | SV34887           |

| Report Detail |            |
|---------------|------------|
| Issue Date    | 05/06/2026 |
| Prepared By   | Lisa Noone |

| Site Visit Detail   |                                                                              |           |       |
|---------------------|------------------------------------------------------------------------------|-----------|-------|
| Date Of Inspection  | 06/05/2026                                                                   | Announced | Yes   |
| Time In             | 10:30                                                                        | Time Out  | 12:20 |
| EPA Inspector(s)    | Lisa Noone                                                                   |           |       |
| Additional Visitors |                                                                              |           |       |
| Company Personnel   | Uisce Éireann: Ed Haythornthwaite, Conor Flanagan, Gerry Kelly, Finian Ennis |           |       |

## > Summary of Key Findings

1. The audit found a number of shortcomings at Rath Water Treatment Plant (WTP), particularly in relation to a lack of appropriate oversight by operational and supervisory staff in relation to the review of plant process trends and responding to and escalating alarms/inhibits.
2. An incident involving low chlorine levels at the contact time verification point over 12 hours was not actioned or escalated appropriately.
3. There are no alarms in place at the WTP to alert operational staff operators to deteriorating water quality or the failure of a critical treatment process.
4. Access to critical plant process information and trended performance data is limited and not available to all staff.

Uisce Éireann should submit a report to the EPA by 06/07/2026 detailing the actions taken and planned, with timescales, to close out the 14 recommendations in this audit report.

## > Introduction

Ashbourne/Ratoath PWS serves a population of 14,000 and is supplied in part by Rath Water Treatment Plant. The treatment plant produces approximately 3,800 m<sup>3</sup>/day and sources its water two boreholes located in close proximity to the plant. Treatment at the plant consists of pre-chlorination and pressure filtration. Water treated on site is stored in Rath Reservoir, which is also supplemented by treated water from Curragha and Windmill Hill Reservoir.

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

All plant processes at Rath WTP were inspected as part of the audit.



1.1

Was the incident suitably alerted to the plant operators, escalated and managed in order to maintain water quality and protect public health?

Answer

No

### Comment

1. During the audit, it was noted that there was a 12 hour period of low chlorine residual at the Ct verification point for the WTP.
2. This occurred from 12.00 to 00.00 on 01/05/2026, and trends indicated that there was low chlorine event during these hours, however there was no change in flow and the plant did not auto-shutdown as programmed.
3. The plant operator stated that he had attended the site on the morning of 01/05/2026 and the following morning 02/05/2026 and the plant was operating as normal with adequate chlorine residual at the Ct verification point.
4. The plant operator received texts which stated that there were issues with chlorine residual at the plant and that the plant had shut down. The operator did not attend the site during this 12 hour period, however upon return on the morning of 02/05/2026 noted that the plant had not shut down automatically as a manual restart is required in this event.
5. Chlorine residual trends leaving the reservoir were adequate upon for the date range reviewed on the day of the audit, and showed that inadequately treated water did not enter the distribution network, likely due to the blending of treated water in Rath Reservoir from Rath WTP, Curragha and Windmill Hill Reservoir.

### Recommendations:

1. Uisce Éireann should investigate the cause of the apparent low chlorine residual at the Ct verification point, taking into consideration whether the incident was as a result of true low chlorine and failed auto-shutdown, instrumentation error, or otherwise.
2. Uisce Éireann should provide results of network chlorine residual for the three days prior to and post the incident.
3. Uisce Éireann should ensure that staff are appropriately trained in responding to critical alarms generated at the plant.



## 2. Alarms, Inhibits & Oversight Audits 2026

2.1

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Answer |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------|
| Is the chlorine contact time calculation correct?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | No     |
| <b>Comment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |        |
| <p>1. Following a recommendation from a previous EPA audit in 2023 a contact coil was installed at the WTP.</p> <p>2. The contact time (Ct) calculation has not been updated since 2023 and does not reflect the current total effective contact time at the WTP since the installation of the contact coil.</p> <p><b>Recommendation:</b></p> <p>4. Uisce Éireann should review the chlorine Ct calculation in line with specific conditions at the WTP, including minimum chlorine required for Ct to be achieved. Alarm and inhibit settings should correlate with the amended Ct calculation</p> |  |        |

2.2

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | Answer |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------|
| Is there a documented site specific incident response and incident escalation process?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Yes    |
| <b>Comment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |        |
| <p>1. The Uisce Éireann Incident Communication Response Guidance Form was displayed at the WTP.</p> <p>2. The flowchart included 15 minute time-delays for both high and low chlorine and turbidity inhibits. The time delay in place for turbidity did not reflect the actual time delay in place on the day of the audit. The time delays for chlorine were not in line with the <i>EPA Water Treatment Manual: Disinfection</i> as detailed in section 1.4.</p> <p><b>Recommendations:</b></p> <p>5. Uisce Éireann should ensure that the Uisce Éireann Incident Communication Response Guidance Form displayed at the WTP contains site specific information including relevant site specific trigger levels protecting critical processes at the WTP.</p> |  |        |

2.3

|                                                                                                                                                                                                                                                                                                      |  | Answer |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------|
| Are suitable alarm settings in place to alert operators to deteriorating water quality or the failure of a critical treatment process?                                                                                                                                                               |  | No     |
| <b>Comment</b>                                                                                                                                                                                                                                                                                       |  |        |
| <p>1. There are no alarms in place at the WTP for chlorine residual, turbidity, etc.,</p> <p><b>Recommendation:</b></p> <p>6. Uisce Éireann should install alarms at the WTP to alert operational staff operators to deteriorating water quality or the failure of a critical treatment process.</p> |  |        |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Answer</b>                                                                                                           |
| <b>2.4</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Are suitable plant shutdowns/inhibits in place to prevent inadequately treated water entering the distribution network? |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No                                                                                                                      |
| <b>Comment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                         |
| <p>1. A 15-minute time delay is in place for chlorine residual at the Ct validation point, enabling a low chlorine shutdown of the WTP. This time delay is considered too short and is not in accordance with the <i>EPA Water Treatment Manual: Disinfection</i>.</p> <p><b>Recommendations:</b></p> <p>7. Uisce Éireann should amend the shutdown setpoint in accordance with the updated Ct calculation and time delays in accordance with <i>EPA Water Treatment Manual: Disinfection</i>.</p> |                                                                                                                         |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Answer</b>                                                                              |
| <b>2.5</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Are plant performance trends accessible by operational staff at the water treatment plant? |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No                                                                                         |
| <b>Comment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                            |
| <p>1. Some plant performance trends are accessible at the WTP via a HMI system, with the exception of chlorine trends at the Ct verification point. Inspection of chlorine residual readings is currently only possible via the CL17 and plant mimic on the HMI.</p> <p><b>Recommendation:</b></p> <p>8. Uisce Éireann should examine the feasibility of upgrading the current HMI system at the WTP to allow for full access to chlorine residual information and all critical trended performance data by operational staff.</p> |                                                                                            |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Answer</b>                                     |
| <b>2.6</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Are plant performance trends accessible remotely? |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No                                                |
| <b>Comment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                   |
| <p>1. Remote access to the SCADA system is available, however the plant caretaker does not have a laptop to access it. SCADA is available on the caretaker's mobile phone, however functionality is limited to the live plant mimic, and trends are not accessible.</p> <p>2. Supervisory staff have full access to the SCADA system on their laptops, including trends.</p> <p><b>Recommendation:</b></p> <p>9. Uisce Éireann should examine the feasibility of providing access to the full SCADA system for all plant operators and standby operators.</p> |                                                   |

|            |                                                             |
|------------|-------------------------------------------------------------|
|            | <b>Answer</b>                                               |
| <b>2.7</b> | Is there appropriate oversight of plant performance trends? |
|            | No                                                          |

**Comment**

1. The audit found that there is not appropriate oversight of plant performance trends as they are not accessible to all operational staff. In addition, supervisory staff do not review trends on a regular basis due to apparent workload.

**Recommendation:**

10. Uisce Éireann should ensure that there are robust systems of reviews and checks on plant performance trends by both operational and supervisory staff, and act on any deficiencies identified.

**2.8**

Is there appropriate oversight of alarm responses?

**Answer**

No

**Comment**

1. The audit found that there is not appropriate oversight of alarm responses, as the incident outlined in section 1.1 was not identified until the day of the audit.

**Recommendation:**

11. Uisce Éireann should ensure that there are robust systems of reviews and checks on the status of alarms and plant performance, and act on any deficiencies identified to protect public health and maintain drinking water quality. This recommendation covers actions on staff training, operating procedures, and establishing managerial and process oversight.

**2.9**

Is there a documented procedure for responding to specific alarms?

**Answer**

No

**Comment**

1. There is no documented alarm response procedure in place detailing what response will be made to alarms and specific steps to be taken by operators and other responders.

**Recommendation:**

12. Uisce Éireann should develop a procedure and deliver appropriate training for responding to and escalating all alarms generated at the water treatment plant, documenting the corrective actions and setting out delegation of responsibilities.

**2.10**

Are there appropriate procedures covering verification of alarms and inhibits status following maintenance or other work on site?

**Answer**

No

**Comment**

1. There is no procedure in place covering verification of inhibits status following maintenance or works on site.

**Recommendation:**

13. Uisce Éireann should develop a procedure and deliver appropriate training covering the verification of inhibit status following maintenance or other works completed at the plant.



### 3. Site Specific Issues

3.1

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

Answer

No

**Comment**

1. Uisce Éireann were recommended in the previous EPA audit in 2023 to investigate the feasibility of installing a run to waste system at the WTP. Uisce Éireann stated that an initial site assessment for the Uisce Éireann Water Treatment Plant Programme has been conducted but could not confirm the scope of works or if a run-to-waste system would be put in place at the WTP.

**Recommendation:**

14: Uisce Éireann should confirm the scope of works, including the installation of a run-to-waste system, and an estimated timeline for commencement and completion of works at the WTP.

## 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](http://www.epa.ie), typically 1 month after the audit report is issued to Uisce Éireann.