

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	Limerick City Environs PWS
Organisation	Uisce Éireann
Scheme Code	1900PUB1032
County	Limerick
Site Visit Reference No.	SV32602

Report Detail	
Issue Date	19/06/2025
Prepared By	Orla Harrington

Site Visit Detail			
Date Of Inspection	26/05/2025	Announced	Yes
Time In	11:00	Time Out	13:00
EPA Inspector(s)	Orla Harrington Regina Campbell		
Additional Visitors	Inland Fisheries Ireland: Jane Gilleran		
Company Personnel	Uisce Éireann: James Lawlor, Sharon O'Dwyer, Tommy Roche, Eoin O'Connell. Veolia: David Murray, Catherine Furey.		

> Summary of Key Findings

1. An incident occurred on 19/05/2025 at the Clareville water treatment plant, when the sludge blanket rose in the washwater tanks due to the failure of critical plant equipment. This resulted in an uncontrolled discharge of sludge supernatant (approximately 600 m3) from the water treatment plant into the River Shannon. The audit found that the incident was not managed or escalated appropriately due to lack of oversight, alarms and appropriate operational controls.
2. There is an automatic pump shutdown linked to a turbidity alarm setpoint of 10 NTU (delay 15 minutes) to control the supernatant discharge to the River Shannon. The audit found that the high turbidity alarm had been disabled at the time of the incident.

> Introduction

The Limerick City Environs public water supply serves a population of 114,864 and produces 42,983 m3/day. The treatment plant has a design capacity to produce 87,000 m3/day of water and is therefore operating below design capacity.

The Clareville water treatment plant is operated by Veolia on behalf of Uisce Éireann under a Design Build Operate contract. There are two sources of raw water, namely a canal feed adjacent to the plant linked to the River Shannon and a gravity feed from the Clonlara headrace, which supplies water to Ardnacrusha hydroelectric power station.

Treatment comprises of screening, pH correction using sulphuric acid, coagulation, flocculation, clarification (Degremont and Actiflo clarifiers), pH correction using lime, rapid gravity filtration, further pH adjustment using lime, chlorination (using chlorine gas and chlorine dioxide depending on trihalomethane formation), ortho-P dosing and fluoridation. There is sludge treatment on-site, consisting of washwater tanks, a picket fence thickener and centrifuges.

This audit was carried out in response to the notification by Uisce Éireann to the EPA on 22/05/2025 of an uncontrolled discharge from the washwater tanks to the River Shannon that occurred at the Clareville water treatment plant between 19/05/2025 and 20/05/2025. Uisce Éireann outlined to the EPA that investigations had concluded that the sludge dryer had been down for repair resulting in higher levels of sludge in the tanks, effecting the supernatant draw off.

> Supply Zones Areas Inspected

The audit focused on the treatment and management of the sludge being generated on site and the supernatant discharge to the River Shannon.



1. Incident Management

1.1

	Answer
Was the incident suitably alerted to the plant operators, escalated and managed in order to maintain water quality and protect public health?	No
Comment	
<p>1. On 22/05/2025 the EPA was notified by Uisce Éireann of an uncontrolled discharge from Clareville water treatment plant to the River Shannon, which occurred between 19/05/2025 and 20/05/2025 but only came to light following complaints from members of the public to Limerick City and County Council on 20/05/2025.</p> <p>2. Limerick City and County Council recieved two complaints on 20/05/2025 alleging that a stream appeared to be polluted entering the River Shannon. Limerick City and County Council staff carried out an inspection of the River Shannon. A discharge was discovered emanating from the Clareville water treatment plant. Limerick City and County Council alerted Inland Fisheries Ireland and Veolia to the incident on 20/05/2025. However, Veolia did not escalate to Uisce Éireann until 22/05/2025.</p> <p>3. The root cause of the incident was a mechanical failure of the burner in the sludge dryer, preventing it from maintaining the flame. This resulted in an elevation of the sludge blanket in the washwater tanks. The burner went back into operation on 26/05/2025.</p> <p>4. There is a continuous turbidity monitor on the supernatant from the washwater tanks before discharge to the River Shannon. This monitor is alarmed to shutdown on a high turbidity alarm level of 10 NTU (15 minutes delay) which stops the discharge to the River Shannon. The audit found that this monitor is not routinely calibrated.</p> <p>5. From 19:30 on 19/05/2025 until 02:30 on 20/05/2025 approximately 600 m3 of supernatant discharge greater than 10 NTU from the washwater tanks was discharged into the River Shannon. At the time of the incident the high turbidity alarm was disabled but the discharge pumps continued to operate, as indicated by the flow meter trends. Investigations by Veolia and Uisce Éireann have not established why the pumps continued to operate with the high turbidity alarm disabled. On the day of the audit, Veolia advised that the operator may not have enabled the turbidity inhibit post cleaning, but this could not be confirmed.</p> <p>6. Mitigation measures are being progressed to prevent a reoccurrence of this incident, including the (i) installation of a 60 minute timer on the turbidity monitor in order to auto-enable the alarms after cleaning (ii) amend the level of the decanting arm in line with the elevation of the sludge blanket to ensure only supernatant is released to the River Shannon (iii) ensure washwater tanks are cleaned on a weekly basis.</p> <p>7. Review of turbidity trends on SCADA found turbidity levels > 10 NTU for a period of time between 19/01/2025 and 20/01/2025, which indicates that supernatant arising from the treatment process is not being adequately managed. During the audit, Uisce Éireann and Veolia could not explain why the inhibits failed to shutdown the plant and why the incident went unreported to Uisce Éireann.</p> <p>8. There is a composite sampler on the discharge point and the supernatant water is tested for aluminium, pH, turbidity, ammonia, total phosphorus. Monitoring results for turbidity between 01/01/2025 and 23/05/2025 range between 0.07 NTU and 6 NTU. Records for sludge removal were also provided for April 2025.</p> <p>9. The audit found that drinking water quality at Clareville water treatment plant was not affected during the time of the incident.</p>	

Recommendations

Subject	Clareville WTP - Audit Report	Due Date	21/07/2025
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. Review and update the incident response procedure at the Clareville water treatment plant to ensure that there is prompt and timely consultation between Veolia and Uisce Éireann to facilitate assessment and management of similar incidents. 2. Turbidity: (i) confirm the turbidity alarm/inhibit on the supernatant is enabled (ii) submit the turbidity trend data for the supernatant from the washwater tanks for 12 months prior to the date of the audit and (iii) include the online turbidity monitor in the external annual calibration of the handheld turbidity monitor. 3. Provide a progress update on the remedial works to include (i) installation of a timer on the turbidity monitor to auto enable the alarms post cleaning (ii) revision of the standard operating procedure so that if the burner in the sludge dryer breaks down or any other sludge treatment equipment, the decanting arm is raised in line with sludge elevation and (iii) weekly cleaning of washwater tanks. <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 21/07/2025 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>		